A Job Analysis of Duties and Tasks Performed by Typists

Jennie McVey

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A JOB ANALYSIS OF DUTIES AND TASKS PERFORMED BY TYPISTS IN A LARGE COMMUNITY

Submitted by

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(B.S. in Ed. Salem Teachers College, 1939)

In partial fulfillment of requirements for the

degree of Master of Education

1949

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CHAPTER I

STATEMENT OF THE PROBLEM AND DEFINITION OF TERMS

Statement of the Problem

This is a study of the duties and tasks performed by typists in a large industrial city.

In order to determine the duties and tasks that are performed by those employed as typists, a job analysis study is necessary. The purpose of a job analysis is to find out directly from the workers what they actually do on the job. It is through this medium that the objectives of the typewriting course may be brought up to date.

According to Dame, Brinkman and Weaver, "a job analysis is an effort to make a detailed study of a particular clerical occupation in order to discover all the conditions and factors that affect the job."[1]

It is not necessary that the student upon graduating from the business course in high school meet the specific requirements of any individual company. It would seem, however, that he have at least a basic training for quick adaptation.

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[1] Dame, F. L., Brinkman, A. R., and Weaver, A., Prognosis, Guidance, and Placement in Business Education. South-Western Publishing Company. (1944) p. 143.

This study is concerned with business organizations in Lynn, Massachusetts that employ high school business graduates. A job analysis will be made to determine the various typewriting duties and tasks performed in an office.

Lynn is located on the coast of Massachusetts, twelve miles north of Boston. Like all other towns and communities in this area, its growth during the past five or six years has been rapid due to the industrial developments that have taken place. In addition to the small businesses supported by any city of 100,000 population, the main sources of employment are to be found in the three plants of the General Electric Company and the shoe industry. There are also a number of other types of business represented such as finance, insurance, utilities, transportation, professional, government, editorial, law, accounting, and retail and wholesale. Many of our high school business graduates find employment in the clerical field in the above types of business.

Purpose of the Study

The main purpose of this study is to ascertain the duties and tasks performed by those employed as typists in a large industrial city as a basis for revising the content and teaching methodology of selected typewriting courses.

Other purposes of this study are the following:

1. To discover the vocational preparation of typists as desired by employers for initial office positions in an industrial community.

2. To discover the kind and number of typing positions represented in the designated area.

3. To find the number and types of office machines, as related to typewriting activities, in use as a basis for determining which office machines should be stressed.

4. To learn more about company policies and procedures such as employment requirements, salaries paid office workers, and promotional opportunities as applied to typing positions.

5. To determine which typing duties can be assigned to on-the-job training and which duties should be undertaken in school.

6. To determine the frequency of occurrence of each typing duty and the relative importance of each duty.

7. To discover the most needed traits for success as typists.

8. To develop a better relationship between the school and business.

9. To devise a course of study in typewriting that will meet the needs of local business men based upon the results of this study.

Definition of Terms

It is imperative that a study, as presented here, must be written with careful regard for terminology. Much confusion results from misinterpretation of terminology. For that reason, the terms used in this report will be interpreted according to the following definitions:

1. A large industrial city as used throughout this study refers to a city whose population is 100,000 and whose main industries are the electrical industry and the shoe industry.

2. Typist is defined in the Dictionary of Occupational Titles as follows: Typist-(clerical) 1-37.32. Typewrites letters, addresses envelopes, copies data from one record to another, fills in report forms, and does miscellaneous typing, all the work being routine or straight copy from rough draft or corrected copy. Makes up stencils for use ref. STENCIL I; MIMEOSCOPE OPERATOR.[1]

3. Curriculum revision refers not only to a change of content but also to a change of teaching technique.

4. A Typing Checker is defined in the Dictionary of Occupational Titles as follows: Typist checker (clerical). A CHECKER who examines for accuracy the typing work of other clerks: examines such items as spelling, punctuation, spacing and neatness; checks names and addresses on letters and envelopes with those on a correct list; compares typed, filled in portion of form letters with body of letter to ascertain if typing matches in shade.[2]

Anderson and Davidson in "Occupational Trends in the United States" states that the rapid growth of typists was influenced by such factors as increasing business needs for correspondence, the improvement of the typewriter, the mass of schooling typists, the competency and acceptance of women in this field, and their employment at relatively low wages. Only seven women stenographers were noted in 1870.[3]

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[1] United States Department of Labor, United States Employment Service, Dictionary of Occupational Titles, Washington, D. C. Government Printing Office, 1939, p. 982.

[2] Ibid., p. 982.

[3] Anderson, D. D., and Davidson, P. E., Occupational Trends in the United States, Stanford University Press, Stanford University, California, 1942, p. 598.

The number of stenographers and typists grew from practically none in 1840 to 1,174,886 in 1940.[1]

The increase in the number of employed persons classified as clerical workers is given below. These figures have been taken from the United States Monthly Labor Review, August, 1947.[2]

YEAR	TOTAL	MALES	FEMALES
1940	4,810,000	2,280,000	2,530,000
1945	6,970,000	2,070,000	4,900,000
1947	7,050,000	2,920,000	4,130,000

The following figures, also taken from the United States Monthly Labor Review for August, 1947[3] show the percentage distribution of clerical workers.

YEAR	TOTAL	MALES	FEMALES
1940	10.4%	6.7%	22.1%
1945	13.0%	6.0%	25.4%
1947	12.4%	7.1%	26.1%

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[1] Statistical Abstract of the United States, Department of Commerce, Washington, D. C., 1946, p. 181.

[2] United States Monthly Labor Review, Department of Labor, Bureau of Labor Statistics, v. 65, August, 1947, No. 2, p. 140.

[3] Ibid., p. 140.

The mechanization of business is requiring more typing, hence, an up-to-date study of local business standards is necessary in order to revise the content and teaching methodology of the typewriting class.

Haynes[1] states:

> Since the vocational aim ranks first in business education, it is necessary that the schools provide training which will enable students to earn a satisfactory livelihood. This involves preparation for actual positions, not imaginary ones. Community and occupational surveys are means for gaining a better understanding of the business world for which high school business graduates are training; the kind of jobs which may be filled by high school graduates, the standards demanded by business, and the training prerequisite to the satisfactory filling of each job.

Since the number of typewriters placed on the market outweighs the total number of any other office machine, it is necessary that the high school student of business be vocationally trained in the use of this machine.

This study is also justified on the ground that it is important for teachers and pupils to know what the business man expects of his office workers. A great many students will never leave a given community, hence business teachers should make a survey to find out what opportunities are available for the high school business graduates and what qualifications are necessary.

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[1] Haynes, Benjamin R., and Graham, Jessie, Research in Business Education, Published by C. C. Crawford, Los Angeles, California, p. 66.

The following statement made in the National Business Quarterly, in 1945 indicates the importance of a local survey.

> The local survey lends itself more readily to finding out the needs in the local community. It determines the exact duties and practices which the business firms require of office workers in initial employees; it finds out the exact kinds of machines which are being used by the local business forms; it secures information concerning the degree and kind of skills which are demanded of applicants who are just out of the local school; it lists the kinds of experience which are expected of applicants for the jobs in the community; it enumerates the opportunities for advancement which are available in the different business firms; and it gives the ideas which the local business men hold concerning the personality traits which they desire applicants to have.[1]

It is evident from studies that have been made that business teachers are keeping in close contact with business men and business. Business teachers should be familiar with the various employment policies and company procedures in order that they might coach their students along those lines. This close cooperation between the school and business may provide the key to many problems in business education.

The high school business subjects should be taught from a vocational point of view so that the graduate will be prepared to take an initial office position. It is important that the course of study in typewriting prepare business graduates for such positions. Typewriting units which give instructions on a single job do not prepare students for the chain of events necessary in successfully concluding a business deal.

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[1]The National Business Education Quarterly, Winter, 1945. "Improvement of Office Practice," Published by Department of Business Education of the National Educational Association of the United States, Ball State Teachers College, Muncie, Indiana. p. 7.

The great majority of people who are dismissed from office positions are dismissed on account of personality or failure to get along with other people. Business demands training in personality, hence it is necessary to find out what traits are needed for success as typists.

Mrs. Gertrude A. Bates,[1] teacher of business subjects at the Loveland High School, Loveland, Colorado, states that the changing trends in business demand that the vocational training be geared to these changes in preparing students for their initial jobs. Carefully conducted surveys may serve as a reliable basis upon which to make recommendations for curriculum changes in high school programs, thereby approaching a training that meets the needs of the business men.

This study will be of value to guidance directors in selecting students who have the interest, ability, and aptitude to succeed in beginning typing positions. The education necessary to perform the job are important factors in guidance. The extent of supervision, skill in dealing with people and the physical requirements of a particular job are of value to the guidance director.

This study will reveal the employer's opinion as to curriculum weakness and the short-comings of young graduates.

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[1]Bates, Gertrude A., "Improvement of Business Instruction Through a Survey," Balance Sheet, 1946, p. 190.

The standards of proficiency that students should reach before being recommended for the initial typing position will be revealed by this study.

This study will also show a survey of occupational conditions and trends in the Lynn area.

The following statement made by Haynes[1] shows the importance of study in the field of typewriting.

"While remarkable progress has been made in the teaching of typewriting, still greater achievements may be expected as a result of additional research."

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[1]Haynes, Benjamin R. and Graham, Jessie, Research in Business Education, Published by C. C. Crawford Company, Los Angeles, California, 1932, p. 44.

CHAPTER II

DIGEST OF RELATED STUDIES

Although a number of job analyses studies have been made in the field of business education, a job analysis of typewriting duties and tasks is lacking.

Rice[1] states:

> It is astounding that studies of the duties and traits of any particular business occupation are so scarce. Twenty years or more have elapsed since the appearance of the Charters and Whitley study of secretarial duties and traits, and in all that time not one additional occupational study of comparable scope has been made. Little studies here and there have been made, but lacking sufficient scope to serve the purpose of generalization.

One of the most widely publicized analysis of secretarial duties and traits was conducted by Charters and Whitley.[2] These research workers received replies from 715 persons who were considered to be secretaries. The secretaries were provided with a list of 71 typewriting duties and were asked to check each duty which they performed. The duty of typewriting letters was checked by 683 secretaries. Since other duties were checked by fewer respondents, Charters and Whitley concluded that the duty of typewriting letters should be ranked first among the typewriting duties.

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[1] Rice, L. A., "Attaining Standards in Preparation for Business," American Business Education, Volume IV, No. 1, October, 1947. p. 14.

[2] Gemmell, James, "Courses of Study in Typewriting," American Business Education Yearbook, Volume IV, 1947. pp. 323-324.

Although the conclusion is probably correct, no provision was made to reveal the proportion of time spent by the typists on the 71 duties listed. The fact that the largest number of secretaries typewrite letters is no proof that they devote more time to typewriting letters than to any other duty.

Another job analysis of the secretary's position was conducted by Nichols[1] in 1927. This study was made possible through the cooperation of the National Association of Office Managers. The purpose of this study was to determine the duties performed by non-stenographic and non-bookkeeping clerical workers. A total of 54 business organizations were included in this study. The office managers were asked to indicate duties for which training through previous experience or school training was necessary. Also, to get a true picture of the duties performed by these clerical workers, the managers were asked to indicate the types of work performed. Typing from copy ranked as second highest. More than half of the office managers claimed that typing from copy and typing bills should receive training in school.

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[1]Nichols, Frederick G., et al A New Conception of Office Practice, published by Rapid Service Press, Boston, 1927, p. 123.

A list of the duties which the persons employed as typists performed is given below:

1. Using the telephone
2. Messenger service
3. Making out shipping papers
4. Checking postings
5. Typing orders
6. Typing from copy
7. Verifying
8. Figuring cost
9. Typing bills
10. Operating the listing machine
11. Operating the calculators

Forty-two per cent of the office managers said that there was an opportunity for promotion while fifty-two per cent claimed no promotional opportunity for the typist.

Wiggins,[1] made a comprehensive study in 1937 to determine the relationship between (a) the subject matter taught in the schools and (b) the business opportunities in Rhode Island. Much of the information was obtained by personal interviews with office managers. Concerns of different industries were used for obtaining the information. Forty-seven firms were interviewed and the employment statistics revealed that 3,045 men and women were employed in the office. This number was made up of 1,307 men and 1,738 women. All forty-seven firms stated that high school education is of value and forty of the firms wanted employees trained in the business field. Three banks, three insurance offices, and an individual broker did not find the business training offered in the high school sufficient.

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[1] Wiggin, Harold A., "Specific Training for Occupational Opportunities in Rhode Island," Balance Sheet, November, 1937. pp. 110-113.

Forty stated that general business training was essential and sixteen stated that emphasis on shorthand and typewriting improves the efficiency of the worker.

Office machines most used were the typewriter, adding machine and bookkeeping machine.

A sense of responsibility was stated by thirty-three concerns as the personal qualification most important for success of young office workers. Other qualities given in order of their importance are: accuracy, personality, speed, and initiative.

A study was made by Peterson,[1] in 1928, in which 84 concerns reported and the results showed that the typewriter was the most used machine, the adding machine second and the bookkeeping machine fifth following the cash register and check writer.

A similar study was made in Cranston, in 1933, by Valentine,[2] which ranked typewriters first in importance, adding machines second, and the bookkeeping machine third.

Haslem,[3] made a study in 1941 by making direct contact with about 500 business offices in Salt Lake City. Information regarding (1) number employed, both men and women; (2) the number

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[1] Peterson, A. E., Unpublished Report, High School, Westerly, Rhode Island, April, 1928, p. 2.

[2] Valentine, W. H., "Meeting the Needs of the Community Through the High School Commercial Curriculum," Unpublished Master's Thesis, 1933, Rhode Island College of Education, p. 9.

[3] Haslam, James E., "Business Education for Local Needs." Business Education World, Volume XXI, May, 1941, pp. 835-836.

of inexperienced employees hired during the preceeding twelve months, both men and women; (3) the age of beginners, both average age and age distribution; (4) the general educational requirements--high school, business college, or college; and (5) whether or not experience is required was obtained for each of the following office positions:

1. accountants
2. bookkeepers
3. cashiers
4. billing clerks
5. file clerks
6. time clerks
7. messengers
8. secretaries
9. stenographers
10. dictaphone operators
11. typists
12. machine bookkeepers
13. telephone operators
14. calculator operators
15. general office workers

This study showed that the peak age of graduation is 17 years, 6 months and the age of employment is 19 years, 10 months. This means that the high school graduate cannot find employment for a year or so after graduating from high school. This study showed that 450 business men out of 668 prefer employees who have had training beyond the high school level; while 170 employers stated that the high school graduates are acceptable for beginning jobs such as file clerks, messengers, typists, and in some cases general office work. Only 47 specified college training, and this was for accounting positions.

The salaries ranged from $45.00 a month to $250. Messengers were paid the lowest and accountants were paid the highest. For typist, the salary was $50-$85 a month.

It was found from the study made that most of the larger concerns offer employees an opportunity to learn more important work and receive promotion if they develop such qualities as

originality, initiative, and perseverance.

It was found that in planning a course to fit a student for a job in the business world, the vocational subjects should be placed in the vocational year. Business students should plan to continue their training beyond high school in order to give training at a time nearer employment.

Another occupational survey of the city of Albert Lea, Minneosota was made by the Albert Lea Senior High School Commercial Club,[1] in 1941. This municipal community had a population of 12,000. The stencils for the questionnaire were cut by the students of the stenographic class; the paper was furnished by the school; and the entire cost was less than ten dollars. This differed from the Wiggin study and the Haslam study in that a questionnaire check list was used.

The names of the business places that seemed likely to employ office and clerical help were obtained from the telephone directory. A list of these businesses was made and envelopes addressed to them. This work was carried out by the typewriting class and it gave the students useful work based on a real situation. Seventeen girls in the Commercial Club delivered the 333 questionnaires to the businesses of Albert Lea. Each questionnaire was prefaced by a form letter urging cooperation and stressing the worth of the study. One week from the date of delivery, the girls called upon the businesses for completed

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[1]Miller, Bryon M., "Does the High School Commercial Department Meet the Needs of Your Local Community?" Balance Sheet, Vol. XXII, No. 8., April, 1941, pp. 340-341.

questionnaires. Through this means 80 per cent of the questionnaires were returned.

The first section of the questionnaire dealt with office machines. Typewriters were the most used machine followed by the adding machine, check writer, calculator, and bookkeeping machine. A high percentage of business managers believed that training in the use of the following machines would be of value to applicants:

1. Typewriters
2. Adding machines
3. Check writers
4. Mimeograph
5. Calculators
6. Bookkeeping machines
7. Dictaphone
8. Duplicating machines
9. Addressograph machines

One section of the survey was devoted to the classification of office and clerical employees. The largest number of full-time employees were clerks, followed by salesmen, bookkeepers, stenographers, department managers, typists, general managers, secretaries, cashiers, accountants, calculating machine operators, and tellers. The largest number of part-time employees were clerks, bookkeepers, stenographers, typists, salesmen, and secretaries.

Twenty desirable personality traits were listed in the questionnaire and business proprietors were asked to list the first five traits they thought most essential to applicants for positions. The traits were ranked among the first five as follows: accuracy, honesty, courtesy, intelligence, and reliability. The

schools can do much to encourage and to develop these traits by insisting on high standards and emphasizing the more desirable traits.

Sister Mary de Paul and Winchel,[1] made a study by interviewing ten persons who represented the types of offices into which their students might enter. Appointments were made with personnel managers for interviews and the following questions were asked:

1. To what extent do applicants fail to present themselves in suitable dress?
2. What does the personnel manager look for when interviewing an applicant?
3. How many people do you turn away?
4. To what extent do applicants fail to fill out application blanks?
5. In filling out application blanks, what is the most common error?
6. What references should an applicant bring?
7. Do you give tests? If so, of what do they consist?
8. What are your standards?
9. Do you give a trial period?
10. Do you employ nervous applicants?
11. How fast must an applicant type?
12. What kind of machines are used?
13. Are jobs available?
14. What are the opportunities for high school graduates?

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[1]Sister Mary de Paul and Winchel, Gladys, Mae, "Determining Standards of Employment in Office Positions," Balance Sheet, Vol. 24, April, 1943. p. 340.

Some of the findings are appropriate to our present situation. In answering the question dealing with suitable dress, the personnel managers stated that many high school business students wear beach shoes with dress clothes. Neat appearance and suitable dress is essential when seeking a job.

When a personnel manager interviews an applicant he looks for a well-groomed person and no gum chewing.

It was interesting to note from this study that very few applicants are turned away unless physically unfit.

Students should know the date of their birth, that the application card has two sides, and that they should ask permission to use names as reference.

It was evident from the results of the study that teachers should give specific instruction on how to fill out application blanks.

The speed required in typing ranged from 40-60 words per minute. The large corporations asked that applicants be able to type 70 words per minute but required that speed only in occasional spurts. Most of the business firms considered 40-50 words a minute average typing.

Insurance companies had applicants copy a form and allowed no erasures; other firms gave a standard speed test which they graded on the basis of International Typewriting Contest rules. The Clerical Ability test was also given.

It was interesting to note that none of the ten firms used the Veeder Counting device or any device for calculating the amount of work done. Several of the companies felt that if the employee was not meeting the requirements, a physical reason was usually responsible.

The conclusion to this study stated that teachers in every community could make themselves more valuable if they would get in touch with the businessmen in their community and find out their requirements and their standards. Also a survey of the machines used and the skills that are expected of the applicants would be of value to a business teacher.

Another important job analysis was made of governmental positions in secretarial work in 1941, at the George Washington University, Washington, D. C.[1] The purpose of this analysis was an attempt to revise the secretarial curriculum at the George Washington University, in order to meet the needs of students who were employed during the day by the Federal Government.

Since most of the night-school students were employed during the day by the Federal Government, job analyses were made of the following positions as a means toward making the program more practical. The following jobs, varying in difficulty were analyzed: (1) Junior Typist and Under Clerk Typist, (2) Senior Typist and Junior Clerk Typist, (3) Junior Stenographer and

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[1]Veon, Dorothy H., "Job Analyses of Governmental Positions in Secretarial Work," Journal of Business Education, September, 1941, pp. 13-14.

Junior Clerk-Stenographer, (4) Senior Stenographer, (5) Clerk Stenographer, and (6) Senior Clerk-Stenographer.

A brief summary of the findings is given below. Since this study is concerned with only typists, a brief summary of the general duties and qualifications for Junior Typist and Senior Typist will be treated.

For the Junior Typist and Clerk-Typist, the general duties and responsibilities consisted of typing from plain copy and simple rough draft, performing assigned simple clerical tasks, as: typing correspondence, memoranda, and reports from plain copy or simple rough; typing routine letters according to form used; typing file cards and simple office forms; keeping simple office files and records.

The necessary qualifications for Junior Typist and Clerk-Typist consisted of the following:

1. Either one year of clerical experience or two years of high school, including or supplemented by a course in typing; or graduation from high school, including or supplemented by a course in typing.

2. Knowledge of general office practices and procedures.

3. Ability to type with accuracy from plain copy at a rate of 40 words per minute; make accurate copies from plain copy material; maintain simple files and records; understand and carry out written and oral instructions.

For Senior Typist and Junior Clerk-Typist, the following duties were found to be important: Typing material from plain copy and rough drafts, keeping simple files and records and performing miscellaneous clerical tasks of some difficulty, as:

Typing material from plain copy or rough draft correspondence, memoranda, reports, and financial statements; charts and other tabular material; assembling specified material and data from office files and records; maintaining follow-up card indexes and files on pending actions; answering routine telephone inquiries and giving out readily available information; typing routine letters according to prescribed form, varying in details to suit the circumstances; composing simple briefs; checking forms, letters and memoranda; checking for completion, typing in additional data as required; posting to office records by use of the typewriter.

The necessary qualifications are the same as for Junior Typist but, the employee must be able to make accurate copies of corrected manuscripts.

An analysis of the work of the general clerical employees was made by Potter,[1] in 1942, in order to determine (1) the education and experience required of general clerical workers in large businesses; (2) the employment policies of large businesses concerning the general clerical workers; and (3) the general and specific characteristics of the work of the typical general clerical employee in large business organizations with particular emphasis on the use of machines. The study was conducted by means of a time analysis chart and interviews with office managers.

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[1]Potter, Thelma, "An Analysis of the Work of General Clerical Employees," National Association of Business Teacher-Training Institutions, Bulletin 37, December, 1945.

The study concerned itself with 48 representative workers from the various classifications of general clerical employees. The companies participating in the study represented the five types of business hiring the largest number of clerical workers in the United States. These included banking and brokerage, wholesale and retail trade, steam railroads, public service, and postal service.

Interviews were held with personnel managers who referred the problem to the supervisor of a particular office. The supervisors then chose workers whom they considered to be doing work that was representative of the various types of clerical work in that particular office. Each employee kept a Time Analysis Chart for a five day period and the supervisor checked the form to verify the accuracy at the end of that period.

The range of experience within the group was from six days to twenty-five years, with the average length of experience being five and one-half years.

The beginning employees reported a total of 250 hours of work. Of this time, 86.8 per cent was devoted to the skills of typewriting and filing. The remaining 13.2 per cent of the time was spent in adding machine operation.

The range of experience for employees who had previous experience was from three months to seventeen years. Workers with two years experience were studied first. This group was classified as: (1) those who had worked in an office and had been promoted to another job within the office and (2) those who had

done work other than office work and who were promoted to the office. All those who had been promoted in the office from one job to another moved from work consisting of filing, checking and simple adding machine operation to jobs requiring the use of more complicated office machines.

The time spent in different work performed was in the following order: (1) Typewriting and preparation for duplication, (2) non-specialized clerical work, (3) filing, (4) adding-machine work, and (5) miscellaneous machines.

The workers spent the greatest percentage of the total hours of typewriting filling in forms. In banking, the adding and calculating machine is used a greater per cent of the total time than any other type of machine. In railroading, filing is reported as being used a greater proportion of the time; in government work, non-specialized work including largely classifying and checking is used the greater part of the time and work of the other types of businesses was more evenly distributed.

The findings in regards to educational qualifications, experience, tests, standards, and promotional opportunities will be treated briefly.

No more than a high school education was required by any of the large companies for general clerical workers. None of them required a business course as a preliminary to employment, and only one expressed a preference for business trained high school people.

Experience was not required for general clerical work at the low or junior clerical levels. However, experience was necessary for the more advanced levels.

The tests given fell into two classifications; clerical tests and typewriting tests. In some cases, intelligence tests were given to determine clerical ability. Copies of the tests were not available because most of the companies did not want to make their employment procedures available to the public. It was interesting to note that one company gave the Otis Self-Administering Test of Mental Ability, and one gave the Thurstone Employment Test. Three companies gave their own constructed test.

Typewriting tests were reported by all but one of the managers interviewed. The tests given are typical timed writing tests on continuity material. The company which did not give a typewriting test reported that they keep their typists on a day-to-day basis at regular pay for two months. If the typist is satisfactory at the end of the two months, he receives a permanent appointment.

Handwriting ability was reported by all companies and failure to fill out application blanks completely or legibly resulted in failure to be permitted to take the qualifying tests.

One half of the companies reported that no particular standards of production in general clerical work is required. The other half reported that the standards within their companies

were numerous, each department developing its own standards according to its needs.

It was found that general clerical workers were eligible for promotion in almost any area of work within the company provided they possessed or acquired the necessary skills and knowledge for the available jobs and had characteristics needed for successful performance of more advanced work.

Potter's recommendations dealing with the typewriting field are given below:

1. The teaching of typewriting for general clerical personnel should develop high degrees of accomplishment in typing letters, envelopes, bills, etc.

2. Training in typewriting for general clerical workers should include attention to preparation of master copies.

Another survey was conducted under the supervision of Tobin,[1] in Kingston, New York, in 1946. The survey was constructed to obtain the following information:

1. The average number of office employees employed in the business offices in the city of Kingston.

2. The number and types of business machines used most commonly in the business offices in Kingston.

3. The types of business machines which the business office employer feels specific training should be provided in the high school business department.

4. The most frequent clerical duties performed by the office worker.

5. The employer's point of view concerning the types of clerical duties that he feels should be taught in school.

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[1]Tobin, James E., "Survey in Kingston," Balance Sheet, January, 1946, Vol XXVII, No. 5, pp. 212-214.

6. An employer's list of the deficiences that he feels to be outstanding in our business trainees.

7. The employer's suggestions for improvement in the business department.

The findings showed that of the 60 firms participating in the study, 47 or 78 per cent of the offices in Kingston employ less than ten people. The majority of them employ less than six. Hence, it was necessary to stress a variety of office work rather than specialize.

The types of machines used were noted and the typewriter held top place. This was followed by the adding machine, check writer, calculating machine, addressograph, and mimeograph.

The outstanding deficiencies of the business graduate were listed as: punctuation, grammar, voice and diction. These weaknesses were prevalent in the stenographic group.

The machines which the business man felt should be given training in school are given below:

1. Typewriter
2. Adding machine
3. Calculating machine
4. Billing machine
5. Bookkeeping machine
6. Mimeograph
7. Check Protector
8. Dictaphone
9. Switchboard
10. Cash register
11. Addressograph
12. Sealing machine
13. Comptometer
14. Multigraph
15. Ditto

The number and variety of clerical duties performed by office workers in the 60 offices cooperating revealed that the following duties are arranged in order of frequency.

1. Telephoning
2. Filing and Indexing
3. Adding machine operation
4. Typing from copy
5. Handling mail
6. Payroll work
7. Posting original entries
8. Writing and dictating letters
9. Checking and verifying
10. Writing monthly statements
11. Cashier work
12. Calculating machine work
13. Writing orders
14. Checking postings
15. Cost figuring
16. Correspondence work
17. Keep stock records
18. Figuring discount
19. Inventory work
20. Recording orders
21. Card index work
22. Auditing vouchers

Twenty-two duties were listed and employers' checked the duties which they thought should receive training in school. The fifteen duties, in order, which were checked most frequently are the following:

1. Telephoning
2. Filing and Indexing
3. Adding machine operation
4. Writing and dictating letters
5. Typing from copy
6. Posting original entries
7. Cashier work
8. Payroll work
9. Handling mail
10. Writing monthly statements
11. Typing bills
12. Correspondence work
13. Card index work
14. Figure discount
15. Keep records

A second criticism of business graduates was a lack of interest in their work. It was felt that the school is too far removed from the work of the business office and that the students are more concerned with getting a passing mark than with the acquiring of the ability to do a standard of work that is acceptable in a business office. However, this can be overcome by establishing higher business standards in school.

Several of the office employers suggested improvements in diction, personal hygiene, and business etiquette.

In order to attempt to discover the needs of business men, a survey was conducted by the business education department of the Loveland High School, Loveland, Colorado,[1] in 1946. The results of the survey helped in setting up a vocational program for shorthand, typewriting, and office machines.

A questionnaire was submitted to the business men in Loveland to determine what they desired of their employees in business. One hundred survey sheets were submitted to three types of ownership--single proprietor, partnership, and corporation. Eighty sheets were returned. According to rank of work classification, the largest number of employees was found to be clerks. General office workers ranked second, and bookkeepers third.

The survey also included checking of general duties that employees should perform. Answering the telephone was considered the most important. Others with a high frequency rating included

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[1]Bates, Gertrude A., "Improvement of Business Instruction Through a Survey," Balance Sheet, December, 1946, Vol. XXVIII, No. 4, pp. 149-190.

meeting callers, filing, ordering supplies, keeping records, making appointments, collecting, keeping the payroll, writing checks, and sorting mail.

Work habits and traits that needed correction in training office workers included the following in order of importance: spelling, responsibility, tact, accuracy, meeting people, courtesy, neatness, observation, cheerfulness, initiative, and punctuation.

Some results of this survey are the following:

1. No special speed requirements demanded of general office workers by the majority of business men.

2. Forty words per minute in typing was checked most frequently by those desiring a certain speed requirement.

3. The most important duty for typists in general office work is addressing envelopes. Typing letters is a close second.

A study was made by Hemkin,[1] in 1947. An inquiry was mailed to a group of representative business men in Green River accompanied by a letter asking the cooperation of the business men involved. The purpose of the inquiry was to discover the deficiencies of the high school business graduates. Another purpose was to discover whether personality development should be stressed more highly in the high school curriculum and whether business men would be interested in a part-time cooperative plan.

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[1]Hemkin, A. H., "The Business Department and the Local Community," Balance Sheet, October, 1947, Vol. XXIX, No. 2, pp. 62-65.

An analysis was made of the returns and it was found that in general, the graduates of the business department have met the demands of the community. However, a few did have some deficiencies.

A brief summary of the findings is given below:

1. The most listed courses that showed deficiencies were office practice, salesmanship, business English, and mathematics.

2. The most necessary office machines mentioned were the typewriters, adding machines, posting machines, stencil duplicator, calculators, and fluid process duplicators.

3. The majority of the business men thought that personality should be stressed more.

4. About one-half of the business men stated that they would be interested in participating in part-time cooperative programs.

The following recommendations were made:

1. Courses in office practice, retailing, business English, and business mathematics should be added to the curriculum.

2. Office machines which should be added to the department are adding machines, posting machines, and calculators.

3. Personality development should be integrated in the present program and stressed more highly.

4. More time and study should be given to the cooperative part-time programs in business.

These studies have shown a definite need for training in various office duties. Teachers should make themselves more valuable by finding out what the business men in the community expect of the high school business graduate.

CHAPTER III

PROCEDURE FOR GATHERING DATA

The problem of this thesis, an analysis of the duties and tasks performed by those employed as typists in a large industrial community of 100,000 population, was worked out through the interview and check-list methods of research. The following steps indicate the method of procedure used: (1) analysis of the typewriting duties and tasks performed by typists; (2) compiling final duty list; (3) determining the activities to be learned in school and which duties should be learned on the job based on employees' and employers' judgments; (4) determining the employment policies in regard to age requirements, health requirements, education and experience as applied to typing positions; (5) determining the types of office positions available for the high school business graduate; (6) determining the most needed traits for success as typists based on office managers' opinion; (7) determining the standards of production, the promotional opportunities, and the salaries paid typists.

Forms for Gathering Data

It was necessary to determine what forms to use for gathering data for this job analysis.

Time Analysis Chart

After much study a time analysis chart was compiled.

The time analysis chart consisted of 61 typewriting duties and tasks listed alphabetically. These duties were selected from primary and secondary sources. The primary source was the writer's own experience as office worker and teacher of typewriting. The secondary sources were: (1) Analysis of Secretarial Duties and Traits[1]; (2) The Personal Secretary[2]; (3) textbooks and magazine articles on typewriting and office practice.

The list of duties was duplicated on two sheets of 8½ by 11 paper. Opposite the list of duties was placed nine columns giving the time of the day in hours from 8 A.M. to 5 P. M. Each of these sheets represented one working day.

Twenty office workers cooperated to help compile this final duty list through the medium of the time analysis chart. Table I shows the types of businesses from which these office workers were chosen and the number and per cent representing each business.

The financial field contributed 6, or 30 per cent employees; two were chosen from the office of a loan finance company, four from the office of a local bank. Three or 15 per cent, were chosen from the electrical manufacturing field;

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[1]Charters, W. W., and Whitley, I. B., Analysis of Secretarial Duties and Traits. Baltimore: Williams and Wilkins Co., 1924. p. 186.

[2]Nichols, F. G. and Wissman, W. S., The Personal Secretary: Differentiating Duties and Traits. Harvard University Press, 1934. p. 105.

three or 15 per cent, were from civil service. Two were chosen from each the law and leather fields; and one each from shoe, editorial, plumbing, and school offices.

TABLE I. DISTRIBUTION OF EMPLOYEES SOLICITED FOR TIME ANALYSIS CHARTS

Businesses	Number	Per Cent
Finance	6	30.0
Electrical Manufacturing	3	15.0
Civil Service	3	15.0
Law	2	10.0
Leather	2	10.0
School	1	5.0
Shoe	1	5.0
Plumbing	1	5.0
Editorial	1	5.0
Totals	20	100.0

Each of the workers was interviewed personally. They were given six time analysis charts--one for each day in the week. They were requested to keep a record for the week of all the various typewriting duties and tasks which they performed, giving the exact time spent on each duty.

The cooperation received from these office workers was excellent. Each typist returned the time analysis charts filled out in the envelope provided with their name, position, and business employer. Some did not give the time spent on some duties but merely checked them. Also, since most of the typists work a forty hour week, five charts were returned by

each typist. When the charts were collected at the end of the week, the returns were tabulated. A summary of these returns is shown in Table II, pages 35-40.

The duties were tabulated according to the greatest number of people who claimed they performed the duty. Then consideration was given to the frequency of performance of each duty; that is, the number of times the duty was performed during the week by the typists who claimed they performed it. In the third column of the table, is given the total number of minutes spent on each typewriting duty and task during the week by those who performed the duty.

All the duties on the time analysis chart except four were checked at least by one of the twenty typists. These four duties were "Articles", "Laboratory tests", "Outlines", and "Autograph". These duties were not excluded from the final duty list, as it was felt that some of the typists to whom the final duty list would be sent would be performing them.

Although there were only 66 duties on the time analysis chart, the number of duties increased to 114 when Summary Table II was organized. The typists had added 48 new duties and tasks, most of which pertained to the particular business in which they were employed.

TABLE II.

SUMMARY OF DUTIES FROM TIME ANALYSIS CHARTS

Rank	DUTIES	Number of people Performing Duty	Frequency of Performance	Minutes per week
1.5	Letters	20	129	3925
1.5	Use of Telephone	20	222	2643
3.0	Index card filing	19	75	1960
4.0	Read, sort and classify mail	18	60	1145
5.5	Compose letters and messages	16	59	1410
5.5	Wait on customers	16	174	2560
8.0	Folding and insertion of letters in envelopes	15	64	913
8.0	Memoranda	15	10	155
8.0	Reports	15	136	935
10.0	Checks	14	29	855
11.0	Adding machine	13	63	1180
12.0	Envelopes	12	64	673
13.0	Cards	10	45	1285
15.0	Keep employer reminded of appointments	9	30	234
15.0	List of various kinds	9	28	445
15.0	Receipts	9	49	630
17.0	Stencils	8	19	420
18.0	Check writer	7	37	68
21.5	Applications	6	13	655

TABLE II, Continued

SUMMARY OF DUTIES FROM TIME ANALYSIS CHARTS

Rank	DUTIES	Number of People Performing Duty	Frequency of Performance	Minutes per week
21.5	Bills of sale	6	17	525
21.5	Expense account	6	6	225
21.5	Inventories	6	11	400
21.5	Orders	6	14	280
21.5	Make master copies	6	21	375
26.0	Affidavits	4	7	215
26.0	Shipping orders	4	103	405
26.0	Wills	4	7	125
32.5	Balance Sheets	5	12	565
32.5	Check form letters for completion	5	19	280
32.5	Claims	5	13	205
32.5	Copy for newspapers	5	9	210
32.5	Credit inquires	5	18	620
32.5	Mortgages	5	19	655
32.5	Notes (Financial)	5	11	140
32.5	Proof reading	5	55	705
32.5	Tax Returns	5	91	615
32.5	Work sheets	5	7	325
38.5	Bill of lading	3	5	140

TABLE II, Continued

SUMMARY OF DUTIES FROM TIME ANALYSIS CHARTS

Rank	DUTIES	Number of People Performing Duty	Frequency of Performance	Minutes per week
38.5	Invoices	3	25	1095
41.0	Bookkeeping	4	6	240
41.0	Libels in divorce	4	9	105
41.0	Requisitions	4	10	100
50.5	Bulletins	2	13	300
50.5	Cables	2	2	30
50.5	Case histories	2	3	40
50.5	Contracts	2	5	115
50.5	Dictaphone	2	4	110
50.5	Payroll	2	12	680
50.5	Recommendations	2	3	35
50.5	School notices	2	4	30
50.5	Briefs	2	1	10
50.5	Deeds	2	5	40
50.5	Estimates	2	11	430
50.5	Interrogatories, answers to bills	2	3	40
50.5	Mimeograph	2	8	235
50.5	Policies	2	95	530
50.5	Statistical typing	2	5	165

TABLE II, Continued

SUMMARY OF DUTIES FROM TIME ANALYSIS CHARTS

Rank	DUTIES	Number of People Performing Duty	Frequency of Performance	Minutes per week
50.5	Telegram	2	5	65
84.5	Advertisements	1	2	60
84.5	Administration Petition	1	1	20
84.5	Articles of organization	1	1	10
84.5	Agreement of Association	1	1	10
84.5	Addressograph	1	2	90
84.5	Bank deposit lists	1	1	13
84.5	Corporation by law	1	1	25
84.5	Checking records	1	1	30
84.5	Correspondence with branch office teletype	1	3	20
84.5	Checking unfilled orders	1	1	10
84.5	Counted cash	1	6	100
84.5	Cut coupons	1	1	60
84.5	Coupons for deposit	1	1	60
84.5	Check books, Returned, by Treasury Dept	1	1	30
84.5	Drawing two writs	1	2	20
84.5	Drawing executions	1	1	40
84.5	Declarations	1	1	30
84.5	Drawing checks	1	1	30
84.5	Ediphone	1	2	70

TABLE II, Continued

SUMMARY OF DUTIES FROM TIME ANALYSIS CHARTS

Rank	DUTIES	Number of People Performing Duty	Frequency of Performance	Minutes per week
84.5	Estimates for yearly fee	1	1	60
84.5	Fluid duplicator	1	3	40
84.5	Figure loans	1	1	20
84.5	Figuring	1	1	45
84.5	General clerical	1	1	35
84.5	Graphotype	1	1	40
84.5	Going to banks	1	2	50
84.5	Help prove cash	1	2	40
84.5	Keeping scrap book	1	4	80
84.5	Looking up orders, credit rating	1	3	30
84.5	Manuscripts	1	1	45
84.5	Making deposits	1	2	50
84.5	Operate sealing machine	1	1	15
84.5	Permits	1	2	20
84.5	Posting	1	4	60
84.5	Petition probate will	1	1	15
84.5	Production records	1	5	270
84.5	Posting records	1	3	90
84.5	Proving up of cash	1	4	65

TABLE II, Continued

SUMMARY OF DUTIES FROM TIME ANALYSIS CHARTS

Rank	DUTIES	Number of People Performing Duty	Frequency of Performance	Minutes per week
84.5	Prepare call for Treasury Dept.....	1	1	20
84.5	Preparing inventory.....	1	1	40
84.5	Posting brokerage orders.....	1	1	20
84.5	Reconcile checking account.....	1	1	30
84.5	Signature cards - Savings Bank.....	1	1	30
84.5	Statements yearly.....	1	7	360
84.5	Testimony.....	1	1	30
84.5	Type payroll sheets.....	1	1	30
84.5	Type purchase orders, letters.....	1	6	360
84.5	Typing Minutes.....	1	2	80
84.5	Typing Summons.....	1	1	15
84.5	Trial balance.....	1	1	60
84.5	Type proclamations.....	1	1	25
84.5	Remittance for shipping.....	1	2	20
112.5	Articles.....	0	0	0
112.5	Laboratory tests.....	0	0	0
112.5	Outlines.....	0	0	0
112.5	Autograph.....	0	0	0

Duty List to Employees

The final duty list, shown as Schedule B, pages 112-115 in the Appendix was compiled from Table II. The 90 duties were listed in alphabetical order.

In addition to finding out what typewriting duties and tasks were performed by typists, it was attempted to determine which duties were important and which unimportant. Space was provided on the check list for securing this information. Further provision had to be made for ascertaining the duties and tasks which might be learned in school, while on the job, and which in school and on the job. Three columns on the check-list--"school," "job," and "school-job" were provided for the typists. The typists were to place a check mark in the column marked "school" if they felt that the duty should be learned in school, in the "job" column if the duty should be learned on the job, and in the "school-job" column if instruction was needed in school with further training on the job. This information would make it possible to determine which duties should be learned in school and which typewriting duties should be learned on the job.

In addition to the above, it was also attempted to find out the approximate time spent by typists on each duty in an effort to establish the relative importance or unimportance of each typewriting duty and task. Columns for acquiring this information were provided on the check list with the headings

"Minutes per day," "Hours per week," and "Weeks per year."

The list of duties was mimeographed on $8\frac{1}{2}$ by 11 paper by the writer's office practice class.

Duty List to Employers

A similar duty list was compiled to be distributed to employers in order to find out what they expect their office workers, employed as typists, to do. This check list of typewriting duties and tasks contained the same duties which were listed in the typists check list, but it did not contain space for listing the time element for each duty. The employer was to consider the duties which he expects his typist to perform for the following points: important or unimportant, and whether each of the duties checked should be taught in school, learned on the job, or learned in school and on the job. This check list which was distributed to employers is shown as Schedule C, pages 116-120, in the Appendix.

Interview Forms

In order to find out what the occupational opportunities are for the high school business graduates, interviews were held with 20 office managers. The first step in planning for the interviews was to compile a list of questions to be asked which would cover the purpose of the interview. These questions were tried out on a number of teachers in the business department to be sure that they contained no ambiguous statements.

Distribution of the Check Lists

Form B was distributed to 150 typists. This form was accompanied by a letter, Schedule E, page 123, explaining the purpose of the study and requesting the employee's cooperation. A list of directions was attached to each check list. The number and per cent of employees from the various offices who were given check-lists are shown in Table III.

TABLE III. DISTRIBUTION OF TYPISTS SOLICITED FOR CHECK LISTS

Businesses	Number	Per Cent
Electrical Manufacturing....	40	26.7
Finance.....	20	13.3
Civil Service.....	10	6.7
Law.....	10	6.7
Insurance.....	10	6.7
Utility.....	10	6.7
Leather.....	10	6.7
Wholesale and Retail.....	10	6.7
Shoe.....	5	3.3
Editorial.....	5	3.3
Railway.....	5	3.3
Employment Office.....	5	3.3
School.....	5	3.3
Real Estate.....	5	3.3
Totals.....	150	100.0

The businesses were selected on the basis of possible places where our high school business graduates might seek employment as typists. An attempt was made to select those offices where the office force was rather large in order to

reach a number of typists.

In many cases, it was possible to distribute these check lists in person or through the cooperation of persons who were related to typists. This personal contact made it possible to get back a large percentage of the check lists.

Form C shown as Schedule C, on pages 116-120, was mailed to 125 employers. The City Directory was used to secure the names and addresses of firms likely to employ typists. Each check list was numbered in red in the upper right hand corner in order that the writer might check the returns. Each check list was prefaced with a letter, shown as Schedule F, on page 124, explaining the purpose of the study.

The final part of the study was to make personal interviews with office managers. Arrangements were made for appointments and in most cases, the office managers were more than willing to cooperate. However, in a few cases, where the office manager was pressed for time, the writer left the mimeographed list of questions and the office manager filled it out as soon as possible and returned it in a self-addressed envelope which the writer provided. Each interview was written up as soon as possible after the interview was held in order to clarify any later misunderstanding.

Interviews were based upon definite points so that the replies might be tabulated.

In addition to finding out the types of office positions available for high school business graduates, the following points were treated:

1. Employment policies in regards to age requirements, health requirements, education, and experience.
2. Types of tests given to applicants for typing positions.
3. Standards of production as it applies to typewriting.
4. Promotional opportunities for typists.
5. Salaries paid typists.
6. Make of typewriters in use.
7. Machines other than typewriters, which the typist is expected to use.
8. Types of filing in use.
9. Adequacy of students' ability to make minor adjustments on the typewriter.
10. Adequacy of students in making corrections such as, erasing, crowding and spreading.
11. Employers' opinion of needed traits for success as typist.
12. Speed required for typing positions.
13. The use and general reaction of typists concerning the electromatic machine.

Ample provision was made for allowing managers to make suggestions or comments.

This form was also duplicated on $8\frac{1}{2}$ by 11 paper by the writer's typewriting class. The form is shown as Schedule D, pages 121-122, in the Appendix.

The types of businesses solicited for personal interviews is shown in Table IV.

TABLE IV. CLASSIFICATION OF BUSINESSES SOLICITED FOR PERSONAL INTERVIEWS

Businesses	Number	Per Cent
Finance.....	3	15.0
Manufacturing.....	3	15.0
Utility.....	2	10.0
Shoe.....	2	10.0
Wholesale and Retail.....	2	10.0
Insurance.....	2	10.0
Real Estate.....	2	10.0
Civil Service.....	2	10.0
Transportation.....	2	10.0
Totals.....	20	100.0

A list of questions which was compiled for interviews with office managers is shown as Schedule D, pages 121-122.

CHAPTER IV

FINDINGS

Analysis of Typewriting Duties and Tasks by Employees

The check lists were returned by 75, or 50 per cent of the typists who were solicited for this study.

The duties were tabulated according to highest number performing them. Next consideration was given to the importance of each duty, and, last, the consideration whether the duty should be taught in school, on the job, or both in school and on the job, based on the opinion of employees.

Although most of the check lists were fairly well filled out, some of the employees did not check the time element, claiming that their typewriting duties were various and numerous, and that it was therefore almost impossible to estimate the time spent on each duty.

Of the 75 returns, 60 or 80 per cent, gave the amount of time required for the performance of each duty. From these returns it was possible to give the estimated time spent by typists on the various duties and tasks listed.

Table V, page 48 shows the number and per cent of returns, giving the time spent on each duty.

TABLE V. RETURNS CONTAINING TIME ELEMENT

	Number	Per Cent
Returns with Time	60	80.0
Returns without Time	15	20.0
Totals.....	75	100.0

The Duty Lists returned were tabulated, and the frequency ranking of typing duties is shown in Table VI, pages 50 - 53. This table represents the 90 duties on the check lists which were given to typists, plus 10 selected from additional duties collected from employees' returns.

The "Frequency" column indicates the number of times each typewriting duty was reported as having been performed by typists. The "Important" column indicates how many employees considered the duty important; the "Unimportant" column indicates how many typists considered it unimportant. The "School," "Job," and "School-Job," columns show how many employees checking the duty thought it should be taught in school, on the job, or in school and on the job. The "Minutes Per Day," "Hours Per Week," and "Weeks Per Year," columns represent the total number of minutes, hours and weeks spent on each duty by those typists who gave the time. The "Number Reporting Time," column represents the number who listed the time spent on each duty.

Findings

The top ranking duty as to frequency of performance is "Letters," with 60 out of 75 performing it; 60 considering it important, 0 unimportant; 28 claim it can be taught in school, 2 on the job, and 30 in school and on the job. The total time spent on this duty per day was 2,458 minutes. The time spent would have been greater if all the typists had given the time spent on this duty. The total time represents time spent by 40 typists. See Table VI, pages 50-53.

The next duty ranking high as to performance is "Indexing and Filing," with 58 performing it; 56 considering it important and 2 unimportant; 22 claim it could be taught in school, 5 on the job, and 31 in school and on the job. Totals of 1,372 minutes per day, 264 hours per week, and 1,188 weeks per year were spent on this duty.

"Use Telephone," ranked 2.5 as to frequency of performance with 58 claiming they performed the duty; 50 considered it important, 8 unimportant; 12 claimed it should be taught in school, 19 on the job, and 27 in school and on the job. The total time spent on this duty was given by typists as 1,812 minutes per day, 188 hours per week, and 1,209 weeks per year.

"Adding Machine," ranked high in the list of typewriting duties and tasks, with 52 performing the duty; 50 considered the duty important, 2 unimportant; 36 felt it should be taught in school, 2 on the job, and 14 in school and on the job.

TABLE VI

FREQUENCY RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYEES' JUDGMENTS

DUTY NUMBER	RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	IMPORTANT	UNIMPORTANT	SCHOOL	JOB	SCHOOL-JOB	MINUTES PER DAY	HOURS PER WEEK	WEEKS PER YEAR	NUMBER REPORTING TIME
32	1	Letters.....	60	60	0	28	2	30	2,458	302	1,394	40
70	2.5	Indexing and filing.....	58	56	2	22	5	31	1,372	264	1,188	37
80	2.5	Use telephone.....	58	50	8	12	19	27	1,812	188	1,209	34
83	4	Adding machine.....	52	50	2	36	2	14	1,158	160	831	28
69	5	Folding and insertion of letters in envelopes.....	50	29	21	27	9	14	272	31	781	28
51	6	Reports.....	48	47	1	14	27	7	730	369	703	28
65	7.5	Compose letters and messages	46	45	1	19	3	24	893	103	759	25
68	7.5	Envelopes.....	46	36	10	25	11	10	462	91	655	26
12	9	Cards.....	45	36	9	8	26	11	795	173	607	21
74	10.5	Proof reading.....	42	41	1	27	3	12	100	82	259	11
34	10.5	Lists of various kinds.....	42	32	10	10	22	10	400	57	601	21
50	1.2	Records.....	40	40	0	10	18	12	830	91	410	19
81	13	Wait on customers.....	38	35	3	6	17	15	625	98	628	23
72	14.5	Keep employer reminded of engagements.....	33	30	3	6	14	13	180	223	758	20
76	14.5	Read, sort, and classify mail.....	33	29	4	14	14	5	418	48	637	18
73	16	Make master copies.....	30	30	0	13	5	12	208	163	371	18
38	17	Memoranda.....	29	22	7	6	14	9	165	52	358	14
52	18	Requisitions.....	28	23	5	4	14	10	366	22	351	16
82	19	Yearly statements.....	27	25	2	10	7	10	882	47	231	12
64	20.5	Check records.....	26	26	0	2	13	11	536	98	470	14
71	20.5	Inventories.....	26	24	2	10	4	12	780	106	274	12
43	23	Payrolls.....	25	25	0	5	14	6	714	116	654	16
4	23	Applications.....	25	23	2	4	13	8	225	19	374	4
14	23	Checks.....	25	23	2	17	3	5	457	565	355	13

TABLE VI, Continued

FREQUENCY RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYEES' JUDGMENTS

DUTY NUMBER	RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	IMPORTANT	UNIMPORTANT	SCHOOL	JOB	SCHOOL-JOB	MINUTES PER DAY	HOURS PER WEEK	WEEKS PER YEAR	NUMBER REPORTING TIME
58	25	Tax returns.....	24	24	0	8	10	6	970	130	152	14
79	26.5	Stencils.....	23	22	1	14	2	7	110	13	293	10
88	26.5	Mimeograph.....	23	22	1	19	0	4	150	18	241	9
41	28.5	Orders.....	22	20	2	6	11	5	559	94	555	16
54a	28.5	Work sheets.....	22	21	1	8	8	6	450	53	31	8
22	31	Deposits.....	21	20	1	11	5	5	195	13	316	9
29	31	Invoices.....	21	21	0	11	3	7	995	56	312	10
48	31	Receipts.....	21	18	3	10	5	6	147	24	77	9
16	34	Contracts.....	20	20	0	5	7	8	240	11	213	10
56	34	Telegrams.....	20	18	2	7	5	8	62	12	130	10
63	34	Check form letters for completion.....	20	20	0	7	3	10	110	15	151	6
9	37	Bulletins.....	19	17	2	5	11	3	130	290	198	8
17	37	Copy for newspapers.....	19	16	3	3	6	10	65	8.25	225	11
61	37	Bookkeeping.....	19	19	0	8	0	11	574	101	357	13
19	39.5	Credit inquiries.....	18	17	1	6	6	6	140	21.5	255	6
26	39.5	Expense accounts.....	18	14	4	6	5	7	165	48.5	238	10
1	42.5	Advertisements.....	17	12	5	3	6	8	240	68	317	12
67	42.5	Drawing checks.....	17	15	2	9	3	5	517	43.5	355	7
75	42.5	Prove cash.....	17	17	0	7	3	7	232	19.25	347	10
85	42.5	Check writer.....	17	13	4	8	4	5	851	37	252	9
6	45	Bill of sale.....	16	15	1	4	4	8	130	15	213	9
24	47.5	Estimates.....	15	15	0	3	8	4	230	68.5	296	12
40	47.5	Financial notes.....	15	15	0	8	3	4	115	21.5	94	9
66	47.5	Checking unfilled orders....	15	15	0	12	1	2	337	21	184	7
86	47.5	Fluid duplicator.....	15	15	0	11	3	1	78	11.25	250	7

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TABLE VI, Continued

DUTY NUMBER	RANK	FREQUENCY RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYEES' JUDGMENTS										
		TYPEWRITING DUTIES AND TASKS	FREQUENCY	IMPORTANT	UNIMPORTANT	SCHOOL	JOB	SCHOOL-JOB	MINUTES PER DAY	HOURS PER WEEK	WEEKS PER YEAR	NUMBER REPORTING TIME
2	51.5	Affidavits.....	14	11	3	3	9	2	530	108	367	8
49	51.5	Recommendations.....	14	14	0	6	4	4	95	7.5	205	5
62	51.5	Check credit ratings.....	14	14	0	2	5	7	310	25.5	262	7
77	51.5	Reconcile checking account..	14	13	1	7	3	4	60	2	138	7
15	54.5	Claims.....	13	12	1	0	10	3	540	52	372	9
54b	54.5	Balance sheets.....	13	12	1	7	4	2	230	18	65	4
53	56	Shipping orders.....	12	11	1	5	3	4	445	32	205	7
7	58	Bonds.....	11	11	0	1	6	4	105	10.5	229	7
11	58	Cables.....	11	8	3	6	4	1	25	.5	75	3
13	58	Case histories.....	11	10	1	2	6	3	360	31	252	5
5	61.5	Articles.....	10	8	2	2	5	3	30	0	150	4
42	61.5	Outlines.....	10	5	5	3	2	5	75	5.5	57	4
46	61.5	Policies.....	10	10	0	1	8	1	120	61.5	52	6
90	61.5	Teletype.....	10	9	1	3	2	5	185	19.5	155	6
20	65.5	Declarations.....	9	9	0	0	5	4	535	92	227	7
28	65.5	Interrogatories.....	9	9	0	1	7	1	75	20	115	5
37	65.5	Mortgages.....	9	9	0	3	2	4	130	46	180	6
78	65.5	Signature cards.....	9	9	0	3	4	2	0	3	100	2
10	68	Bills of lading.....	8	5	3	3	0	5	115	65.5	171	7
27	71.5	Figure loans.....	7	7	0	2	2	3	60	29	103	6
31	71.5	Leases.....	7	5	2	4	1	2	70	6	106	4
35	71.5	Loans.....	7	5	2	2	2	3	35	24.5	104	5
45	71.5	Petitions.....	7	7	0	0	4	3	10	0	0	1
47	71.5	Production.....	7	7	0	2	4	1	125	6.5	50	5
89	71.5	Sealing machine.....	7	3	4	2	2	3	127	4.5	106	4
21	71.5	Deeds.....	7	7	0	1	2	4	410	35	110	4
3	77	Agreement of association....	6	6	0	2	3	1	15	8.5	101	4

TABLE VI, Continued

FREQUENCY RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYEES' JUDGMENTS

DUTY NUMBER	RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	IMPORTANT	UNIMPORTANT	SCHOOL	JOB	SCHOOL-JOB	MINUTES PER DAY	HOURS PER WEEK	WEEKS PER YEAR	NUMBER REPORTING TIME
36	77	Manuscripts.....	6	6	0	2	2	2	80	1	102	5
60	77	Writs.....	6	6	0	0	4	2	10	1	112	4
18	80.5	Corporation by-laws.....	5	5	0	0	2	3	0	1	70	3
55	80.5	Summons.....	5	5	0	1	3	1	75	3	50	3
59	80.5	Wills.....	5	5	0	1	3	1	30	3	87	4
84	80.5	Addressograph.....	5	3	2	1	2	2	31	2.5	50	2
33	84.5	Libels in divorce.....	4	4	0	2	2	0	15	0	50	2
39	84.5	Menus.....	4	4	0	2	2	0	25	1.75	40	2
44	84.5	Permits.....	4	4	0	1	2	1	90	4	130	3
57	84.5	Testimony.....	4	3	1	1	1	2	195	6	480	12
8	88	Briefs.....	3	3	0	0	2	1	0	0	100	2
25	88	Executions.....	3	3	0	0	2	1	5	2	100	4
91	88	Switchboard.....	3	3	0	0	3	0	10	1	150	3
30	90	Laboratory tests.....	2	2	0	0	2	0	0	0	50	3
23	95	Drawing.....	1	1	0	0	1	0	0	2	50	1
92	95	Ediphone.....	1	1	0	0	1	0	120	10	52	1
93	95	Comptometer work.....	1	1	0	1	0	0	60	5	50	1
94	95	Soundscriber.....	1	1	0	1	0	0	120	10	50	1
95	95	Keep office supplies in stock	1	1	0	0	1	0	0	3	50	1
96	95	Standard register.....	1	1	0	0	1	0	0	0	52	1
97	95	Loading forms with carbon....	1	1	0	1	0	0	80	2	52	1
98	95	Splitting orders.....	1	1	0	1	0	0	0	1	50	1
99	95	Schedules.....	1	1	0	0	0	1	30	2.5	50	1
100	95	Friden calculator.....	1	1	0	0	0	1	40	4	50	1

Another duty which ranked high by employees was "Folding and Insertion of Letters in Envelopes." Of the 50 typists performing the duty, 29 considered it important, 21 unimportant; 27 felt instruction should be given in school, 9 on the job, and 14 in school and on the job.

"Wait on Customers," ranked 13 by employees and 17.5 by employers. Of the 38 typists reporting this duty, 35 considered it important, 3 unimportant; 6 felt training should be given in school, 17 on the job, and 15 in school and on the job. The total time spent on this duty was 625 minutes, 98 hours per week, and 628 weeks per year.

Analysis of Duties Checked by Employers

The check lists returned by 50 out of 125 employers (40 per cent) were tabulated and the results are shown in Table VII, pages 58-60.

The duties were tabulated according to highest number performing them. Next, consideration was given to the importance of each duty, and last the consideration whether the duty should be taught in school, on the job, or both in school and on the job, based on the judgments of employers.

Findings

The duties ranked highest by the employers were "Letters" and "Adding Machine." Out of the 50 replies, 50 require their typists to be able to type letters, 29 claiming they should be taught in school, none on the job, and 21 in school and on

the job. See Table VII, pages 58 - 60.

A considerable number, 33 out of 41, claim that the adding machine should be taught in school and 8 claim that it should be taught both in school and on the job.

"Use Telephone" and "Indexing and Filing" ranked 3.5 in the list of typewriting duties and tasks. Out of 38 employers who claim their typists perform the duty, "Use Telephone," 37 claim it important, one claims it unimportant; whereas, 18 employers claim it should be taught in school, 5 on the job, and 15 claim instruction should be received in school and on the job. Although 2 employers claimed "Indexing and Filing" unimportant, 22 claimed it should be taught in school; only one claimed it should be taught on the job, and 15 claimed it should be taught in school and on the job.

"Folding and Insertion of Letters in Envelopes," ranked 5 on the list of typewriting duties, with 37 mentioning it as being performed by their typists. Of the 37 claiming the duty is performed by typists, 27 claimed it important and 10 unimportant. Of the number of employers checking this duty, 27 felt instruction should be given in school, 9 on the job, and one both in school and on the job.

"Bookkeeping," ranked high in the list of 100 duties. Out of 34 employers who checked the duty, 32 claimed it important, and 2 considered it unimportant. Thirteen employers felt instruction should be given in school, 2 on the job, and 19 in school and on the job.

"Compose Letters and Messages," ranked 7 in importance with 32 claiming the duty performed. Only 4 of the 32 claimed it unimportant; whereas, 28 claimed it important. Fifteen claimed it should be taught in school, 4 on the job, and 13 in school and on the job.

Both the duties "Envelopes," and "Keep Employer Reminded of Engagements," ranked 8.5. This shows their importance in the list of typewriting duties and tasks. Twenty-three claimed "Envelopes" are important, and 8 claimed them unimportant. Out of the 31 replying, 22 claimed instruction should be given in school, 4 on the job, and 5 in school and on the job. Only 7 out of 31 claimed "Keep Employer Reminded of Engagements" unimportant, and 24 claimed it important. It was claimed by 12 that instruction should be given in school. Instruction on the job was voted by 13 and 6 claimed both instruction in school and on the job as being necessary.

"Make Master Copies," ranked in the upper third of the list of duties. Of the 17 claiming this duty as being performed, 15 claimed it important, and 2 claimed it unimportant. Seven claimed instruction should be given in school, 5 on the job, and 5 in school and on the job.

"Stencils," ranked 38.5 with 13 claiming it important, 2 unimportant; 11 claimed instruction should be given in school, 3 on the job, and 1 in school and on the job.

"Mimeograph" ranked 53, with 11 out of 50 performing the duty. Eight claimed it important, 3 unimportant; 9 claimed

it should be taught in school, no one on the job, and 2 claimed it should be taught both in school and on the job.

Although the "Fluid Duplicator" ranked 73.5, 3 claimed it should be taught in school, and only one claimed it should be taught on the job.

"Laboratory Tests" was not checked by employers as being performed by typists. This was due to the fact that no hospital or medical firms participated in this study. Hence, this duty was omitted from the frequency ranking of typewriting duties.

TABLE VII

FREQUENCY RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYERS' JUDGMENTS

Duty Number	Rank	Typewriting Duties and Tasks	Frequency	Important	Unimportant	School	Job	School-Job
32	1	Letters.....	50	48	2	29	0	21
83	2	Adding machine.....	41	36	5	33	0	8
80	3.5	Use telephone.....	38	37	1	18	5	15
70	3.5	Indexing and Filing.....	38	36	2	22	1	15
69	5	Folding and insertion..... of letters in envelopes	37	27	10	27	9	1
61	6	Bookkeeping.....	34	32	2	13	2	19
65	7	Compose letters & Messages....	32	28	4	15	4	13
68	8.5	Envelopes.....	31	23	8	22	4	5
72	8.5	Keep employer reminded of..... engagements	31	24	7	12	13	6
14	11	Checks.....	29	26	3	15	2	12
51	11	Reports.....	29	28	1	4	12	13
43	11	Payroll.....	29	28	1	8	6	15
29	13.5	Invoices.....	28	25	3	11	6	11
67	13.5	Drawing checks.....	28	24	4	13	5	10
85	15	Check writer.....	27	24	3	17	5	5
50	16	Records.....	26	25	1	9	6	11
22	17.5	Deposits.....	25	22	3	15	3	7
81	17.5	Wait on customers.....	25	22	3	7	8	10
75	20.5	Prove cash.....	24	22	2	13	3	8
76	20.5	Read, sort, and classify mail.	24	18	6	4	14	6
77	20.5	Reconcile checking account....	24	22	2	18	2	4
34	20.5	Lists of various kinds.....	24	14	10	11	5	8
12	23.5	Cards.....	22	16	6	11	5	6
41	23.5	Orders.....	22	19	3	6	8	8
6	24.5	Bill of sale	21	20	1	8	2	11
56	24.5	Telegrams.....	21	15	6	13	4	4
19	26	Credit inquiries.....	20	19	1	6	1	13
16	27.5	Contracts.....	19	18	1	6	3	10
52	27.5	Requisitions.....	19	15	4	5	5	9
48	30	Receipts.....	18	15	3	9	4	5
64	30	Check records.....	18	16	2	8	3	7
71	30	Inventories.....	18	17	1	9	3	6
54 a	33	Work sheets.....	17	17	0	5	2	10
63	33	Check form letters for..... completion	17	10	7	7	6	4
73	33	Make master copies.....	17	15	2	7	5	5
10	35.5	Bills of lading	16	11	5	7	4	5

TABLE VII, Continued

FREQUENCY RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYERS' JUDGMENTS

Duty Number	Rank	Typewriting Duties and Tasks	Frequency	Important	Unimportant	School	Job	School-Job
62	35.5	Check credit ratings & orders.	16	12	4	3	7	6
4	38.5	Applications.....	15	13	2	4	4	7
38	38.5	Memoranda.....	15	9	6	5	2	8
54b	38.5	Balance sheet.....	15	14	1	4	1	10
79	38.5	Stencils.....	15	13	2	11	3	1
15	42.5	Claims.....	14	14	0	4	5	5
17	42.5	Copies for newspapers.....	14	10	4	6	0	8
26	42.5	Expense accounts.....	14	9	5	2	4	8
58	42.5	Tax returns.....	14	12	2	5	2	7
9	47.5	Bulletins.....	13	10	3	7	2	4
24	47.5	Estimates.....	13	12	1	5	4	4
40	47.5	Notes (Financial).....	13	13	0	4	1	8
84	47.5	Addressograph.....	13	10	3	11	0	2
1	50.5	Advertisements.....	12	7	5	2	4	6
49	50.5	Recommendations.....	12	8	4	5	3	4
74	53	Proof reading.....	11	9	2	6	1	4
82	53	Yearly statements.....	11	10	1	4	2	5
88	53	Mimeograph.....	11	8	3	9	0	2
89	55.5	Sealing machine.....	10	7	3	5	3	2
78	55.5	Signature cards.....	10	8	2	6	3	1
2	59	Affidavits.....	9	7	2	1	1	7
27	59	Figure loans.....	9	8	1	2	4	3
31	59	Leases.....	9	8	1	2	1	6
53	59	Shipping orders.....	9	7	2	2	5	2
66	59	Checking unfilled orders.....	9	7	2	3	4	2
35	62	Loans.....	8	8	0	4	2	2
18	65	Corporation By-Laws.....	7	6	1	4	0	3
37	65	Mortgages.....	7	6	1	2	1	4
42	65	Outlines.....	7	4	3	1	3	3
46	65	Policies.....	7	5	2	0	4	3
47	65	Production.....	7	3	4	1	5	1
11	68	Cables.....	6	6	0	4	0	2
21	69.5	Deeds.....	5	5	0	0	0	5
28	69.5	Interrogatories.....	55	5	0	3	1	1
7	73.5	Bonds.....	4	3	1	0	2	2
8	73.5	Briefs.....	4	4	0	0	0	4
5	73.5	Articles.....	4	4	0	1	1	2
20	73.5	Declarations.....	4	3	1	1	1	2
45	73.5	Petitions.....	4	3	1	0	1	3
86	73.5	Fluid Duplicator.....	4	2	2	3	0	1

TABLE VII, Continued

FREQUENCY RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYERS' JUDGMENTS

Duty Number	Rank	Typewriting Duties and Tasks	Frequency	Important	Unimportant	School	Job	School-Job
13	81.5	Case histories.....	3	1	2	2	1	0
33	81.5	Libels in divorce.....	3	2	1	0	1	2
39	81.5	Menus.....	3	1	2	0	3	0
44	81.5	Permits.....	3	1	2	0	1	2
59	81.5	Wills.....	3	3	0	0	0	3
60	81.5	Writs.....	3	3	0	0	0	3
57	81.5	Testimony.....	3	1	2	0	2	1
36	81.5	Manuscripts.....	3	2	1	0	1	2
91	81.5	Switchboards.....	3	3	0	1	2	0
55	81.5	Summons.....	3	2	1	0	1	2
3	87	Agreement of Association.....	2	2	0	0	1	1
87	87	Graphotype.....	2	1	1	2	0	0
25	87	Executions.....	2	2	0	0	1	1
23	95	Drawing.....	1	0	1	0	1	0
92	95	Stenography.....	1	1	0	1	0	0
93	95	Mailing machine.....	1	0	1	1	0	0
94	95	Postal cards.....	1	1	0	0	0	1
95	95	Calculator.....	1	1	0	0	0	1
96	95	Transcribe Ediphone.....	1	1	0	0	0	1
97	95	Stockholders record book.....	1	1	0	0	0	1
98	95	Minute books-stock holders....	1	1	0	0	0	1
99	95	Bookkeeping machine.....	1	1	0	0	0	1
100	95	Cashiering.....	1	1	0	0	0	1
90	95	Teletype.....	1	1	0	0	0	1

Decile Rank

The second step in analyzing the findings was to divide the 100 duties into deciles. This method was used by Charters and Whitley,[1] Etta C. Skene,[2] and by Catherine Santamaria.[3] The 100 duties were divided into groups of ten. The highest group was designated as decile "1," the next "2," and so on to the lowest group which was the tenth decile. Each duty found in the first group of ten was assigned the figure "1" to indicate that it belonged to the first 10 per cent of the 100 duties performed by typists. The number "2" was assigned to each duty in the second group, and so on down through the tenth group.

Tables VIII and IX on pages 62 -69 show the decile ranking of the 100 "Typewriting Duties and Tasks." The following consideration was given to each duty: (1) frequency of mention or performance; (2) per cent of employees and employers claiming the duty to be important; (3) per cent of employees and employers claiming the duty unimportant; (4) per cent claiming duty should be taught in school, on the job, and in school and on the job.

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[1]Charters, W.W. and Whitley, I.B., Analysis of Secretarial Duties and Traits. Baltimore: Williams and Wilkins Company, 1924. 186 pp.

[2]Skene, Etta C., "Occupational Analysis as a Basis of Bookkeeping Curricula of Secondary Schools." Unpublished Doctor's Thesis. New York, N.Y. New York University, 1934. 203 pp.

[3]Santamaria, Catherine, "Job Analysis of Office Services Performed by Office Workers in Small Communities." Unpublished Master's Thesis. Boston, Massachusetts, Boston University, 1941. 206 pp.

TABLE VIII

DECILE RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYERS' JUDGMENTS

DUTY NUMBER	RANK	TYPEWRITING DUTIES AND TASKS	DECILE	FREQUENCY %	IMPORTANT %	UNIMPORTANT %	SCHOOL %	JOB %	SCHOOL-JOB %
32	1	Letters	1	100	96	4	58	0	42
83	2	Adding machine.....	1	82	87	13	80	0	20
80	3.5	Use telephone.....	1	76	97	3	47	13	40
70	3.5	Indexing and filing	1	76	95	5	58	3	39
69	5	Folding and insertion of letters in envelopes.....	1	74	73	27	73	24	3
61	6	Bookkeeping.....	1	68	94	6	38	6	56
65	7	Compose letters and messages.....	1	64	88	12	47	13	40
68	8.5	Envelopes.....	1	62	74	26	71	13	16
72	8.5	Keep employer reminded of engagements.....	1	62	77	23	39	42	19
14	11	Checks.....	1	58	89	11	52	7	41
51	11	Reports.....	2	58	97	3	14	41	45
43	11	Payroll.....	2	58	97	3	28	21	51
29	13.5	Invoices.....	2	56	89	11	39	22	39
67	13.5	Drawing checks.....	2	56	86	14	46	18	36
85	15	Check writer.....	2	54	89	11	62	19	19
50	16	Records.....	2	52	96	4	35	23	42
22	17.5	Deposits.....	2	50	88	12	60	12	28
81	17.5	Wait on customers..	2	50	88	12	28	32	40
75	20.5	Prove cash.....	2	48	91	9	54	13	33
76	20.5	Read, sort, and classify mail.....	2	48	75	25	17	58	25
77	20.5	Reconcile checking account.....	3	48	91	9	75	8	17
34	20.5	Lists of various kinds.....	3	48	58	42	46	21	33
12	23.5	Cards.....	3	44	73	27	50	23	27
41	23.5	Orders.....	3	44	86	14	28	36	36
6	24.5	Bill of sale.....	3	42	95	5	38	10	52
56	24.5	Telegrams.....	3	42	71	29	62	19	19
19	26	Credit inquiries...	3	40	95	5	30	5	65
16	27.5	Contracts.....	3	38	95	5	32	16	52

TABLE VIII, Continued

DECILE RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYERS' JUDGMENTS

DUTY NUMBER	RANK	TYPEWRITING DUTIES AND TASKS	DECILE	FREQUENCY %	IMPORTANT %	UNIMPORTANT %	SCHOOL %	JOB %	SCHOOL-JOB %
52	27.5	Requisitions.....	3	38	79	21	26	26	48
48	30	Receipts.....	3	36	83	17	50	22	28
64	30	Check records.....	4	36	88	12	44	17	39
71	30	Inventories.....	4	36	94	6	50	17	33
54a	33	Work sheets.....	4	34	88	12	29	12	59
63	33	Check form letters for completion.....	4	34	59	41	41	35	24
73	33	Make master copies.	4	34	88	12	41	29.5	29.5
10	35.5	Bills of lading....	4	32	69	31	44	25	31
62	35.5	Check credit ratings and orders....	4	32	75	25	19	44	37
4	38.5	Applications.....	4	30	86	14	27	27	46
38	38.5	Memoranda.....	4	30	60	40	33.3	13.3	53.3
54b	38.5	Balance sheet.....	4	30	93	7	27	7	66
79	38.5	Stencils.....	5	30	86	14	73	20	7
15	42.5	Claims.....	5	28	100	0	28	36	36
17	42.5	Copies for newspapers.....	5	28	71	29	43	0	57
26	42.5	Expense accounts...	5	28	64	36	14	29	57
58	42.5	Tax return.....	5	28	86	14	36	14	50
9	47.5	Bulletins.....	5	26	77	23	54	15	31
24	47.5	Estimates.....	5	26	92	8	38	31	31
40	47.5	Financial notes....	5	26	100	0	31	8	61
84	47.5	Addressograph.....	5	26	77	23	85	0	15
1	50.5	Advertisements.....	5	24	58	42	17	33	50
49	50.5	Recommendations....	6	24	67	33	42	25	33
74	53	Proof reading.....	6	22	82	18	55	9	36
82	53	Yearly statements..	6	22	91	9	36	18	46
88	53	Mimeograph.....	6	22	73	27	82	0	18
89	55.5	Sealing machine....	6	20	70	30	50	30	20
78	55.5	Signature cards....	6	20	80	20	60	30	10
2	59	Affidavits.....	6	18	78	22	11	11	78
27	59	Figure loans.....	6	18	89	11	22	45	33
31	59	Leases.....	6	18	89	11	22	11	67
53	59	Shipping orders....	6	18	78	22	22	56	22

TABLE VIII, Continued

DECILE RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYERS' JUDGMENTS

DUTY NUMBER	RANK	TYPEWRITING DUTIES AND TASKS	DECILE	FREQUENCY %	IMPORTANT %	UNIMPORTANT %	SCHOOL %	JOB %	SCHOOL-JOB %
66	59	Checking unfilled orders.....	7	18	78	22	33	45	22
35	62	Loans.....	7	16	100	0	50	25	25
18	65	Corporation By-laws	7	14	86	14	57	0	43
37	65	Mortgages.....	7	14	86	14	29	14	57
42	65	Outlines.....	7	14	57	43	14	43	43
46	65	Policies.....	7	14	71	29	0	57	43
47	65	Production.....	7	14	43	57	14	72	14
11	68	Cables.....	7	12	100	0	66.3	0	33.3
21	69.5	Deeds.....	7	10	100	0	0	0	100
28	69.5	Interrogatories....	7	10	100	0	60	20	20
7	73.5	Bonds.....	8	8	75	25	0	50	50
8	73.5	Briefs.....	8	8	100	0	0	0	100
5	73.5	Articles.....	8	8	100	0	25	25	50
20	73.5	Declarations.....	8	8	75	25	25	25	50
45	73.5	Petitions.....	8	8	75	25	0	25	75
86	73.5	Fluid duplicator...	8	8	50	50	75	0	25
13	81.5	Case histories.....	8	6	33.3	66.6	66.6	33.3	0
33	81.5	Libels in divorce..	8	6	66.6	33.3	0	33.3	66.6
39	81.5	Menus.....	8	6	33.3	66.6	0	100	0
44	81.5	Permits.....	8	6	33.3	66.6	0	33.3	66.6
59	81.5	Wills.....	9	6	100	0	0	0	100
60	81.5	Writs.....	9	6	100	0	0	0	100
57	81.5	Testimony.....	9	6	33.3	66.6	0	66.6	33.3
36	81.5	Manuscripts.....	9	6	66.6	33.3	0	33.3	66.6
91	81.5	Switchboard.....	9	6	100	0	33.3	66.6	0
55	81.5	Summons.....	9	6	66.6	33.3	0	33.3	66.6
23	87	Agreement of association.....	9	4	100	0	0	50	50
87	87	Graphotype.....	9	4	50	50	100	0	0
25	87	Executions.....	9	4	100	0	0	50	50
23	95	Drawing.....	9	2	0	100	0	100	0
92	95	Stenography.....	10	2	100	0	100	0	0
93	95	Mailing machine....	10	2	0	100	100	0	0
94	95	Postal cards.....	10	2	100	0	0	0	100

TABLE VIII, Continued

DECILE RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYERS' JUDGMENTS

DUTY NUMBER	RANK	TYPEWRITING DUTIES AND TASKS	DECILE	FREQUENCY %	IMPORTANT %	UNIMPORTANT %	SCHOOL %	JOB %	SCHOOL-JOB %
95	95	Calculator.....	10	2	100	0	0	0	100
96	95	Transcribe-Ediphone	10	2	100	0	0	0	100
97	95	Stockholders' record book.....	10	2	100	0	0	0	100
98	95	Minute book - stockholders.....	10	2	100	0	0	0	100
99	95	Bookkeeping machine	10	2	100	0	0	0	100
100	95	Cashiering.....	10	2	100	0	0	0	100
90	95	Teletype.....	10	2	100	0	0	0	100

TABLE IX

DECILE RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYEES' JUDGMENTS

DUTY NUMBER	RANK	TYPEWRITING DUTIES AND TASKS	DECILE	PERFORM %	IMPORTANT %	UNIMPORTANT %	SCHOOL %	JOB %	SCHOOL-JOB %
32	1	Letters.....	1	80	100	0	47	3	50
70	2.5	Indexing and filing	1	77	97	3	38	9	53
80	2.5	Use telephone.....	1	77	86	14	20	33	47
83	4	Adding machine.....	1	69	96	4	69	4	27
69	5	Folding and insertion of letters in envelopes.....	1	67	58	42	54	18	28
51	6	Reports.....	1	64	98	2	29	56	15
65	7.5	Compose letters and messages.....	1	61	98	2	41	7	52
68	7.5	Envelopes.....	1	61	78	22	54	24	22
12	9	Cards.....	1	60	80	20	18	58	24
74	10.5	Proof reading.....	1	56	98	2	64	7	29
34	10.5	Lists of various kinds.....	2	56	76	24	24	52	24
50	12	Records.....	2	53	100	0	25	45	30
81	13	Wait on customers..	2	51	92	8	16	45	39
72	14.5	Keep employer reminded of engagements.....	2	44	91	9	18	43	39
76	14.5	Read, sort, and classify mail.....	2	44	88	12	42	42	16
73	16	Make master copies.	2	40	100	0	43	17	40
38	17	Memoranda.....	2	39	76	24	21	48	31
52	18	Requisitions.....	2	37	82	18	14	50	36
82	19	Yearly statements..	2	36	93	7	37	26	37
64	20.5	Check records.....	2	35	100	0	8	50	42
71	20.5	Inventories.....	3	35	92	8	38	16	46
43	23	Payrolls.....	3	33	100	0	20	56	24
4	23	Applications.....	3	33	92	8	16	52	32
14	23	Checks.....	3	33	92	8	68	12	20
58	25	Tax returns.....	3	32	100	0	33	42	25
79	26.5	Stencils.....	3	31	96	4	61	9	30
88	26.5	Mimeograph.....	3	31	96	4	83	0	17
41	28.5	Orders.....	3	29	91	9	27	50	23
54a	28.5	Work sheets.....	3	29	97	3	36	36	28

TABLE IX, Continued

DECILE RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYEES' JUDGMENTS

DUTY NUMBER	RANK	TYPEWRITING DUTIES AND TASKS	DECILE	PERFORM %	IMPORTANT %	UNIMPORTANT %	SCHOOL %	JOB %	SCHOOL-JOB %
22	31	Deposits.....	3	28	95	5	52	24	24
29	31	Invoices.....	4	28	100	0	52	15	33
48	31	Receipts.....	4	28	86	14	48	24	28
16	34	Contracts.....	4	27	100	0	25	35	40
56	34	Telegrams.....	4	27	90	10	35	25	40
63	34	Check form letters for completion.....	4	27	100	0	35	15	50
9	37	Bulletins.....	4	25	89	11	26	58	16
17	37	Copy for newspapers	4	25	84	16	16	32	52
61	37	Bookkeeping.....	4	25	100	0	42	0	58
19	39.5	Credit inquiries...	4	24	94	6	33.3	33.3	33.3
26	39.5	Expense accounts...	4	24	78	22	33	28	39
1	42.5	Advertisements.....	5	23	71	29	18	35	47
67	42.5	Drawing checks.....	5	23	88	12	53	18	29
75	42.5	Prove cash.....	5	23	100	0	41	18	41
85	42.5	Check writer.....	5	23	76	24	47	24	29
6	45	Bills of sale.....	5	21	94	6	25	25	50
24	47.5	Estimates.....	5	20	100	0	20	53	27
40	47.5	Financial notes....	5	20	100	0	53	20	27
66	47.5	Checking unfilled orders.....	5	20	100	0	80	7	13
86	47.5	Fluid duplicator...	5	20	100	0	73	20	7
2	51.5	Affidavits.....	5	19	79	21	21	64	15
49	51.5	Recommendations....	6	19	100	0	43	28.5	28.5
62	51.5	Check credit ratings	6	19	100	0	14	36	50
77	51.5	Reconcile checking accounts.....	6	19	93	7	50	21	29
15	54.5	Claims.....	6	17	92	8	0	77	23
54b	54.5	Balance sheets.....	6	17	92	8	54	31	15
53	56	Shipping orders....	6	16	92	8	42	25	33
7	58	Bonds.....	6	15	100	0	9	55	36
11	58	Cables.....	6	15	73	27	55	36	9
13	58	Case histories.....	6	15	91	9	18	55	27
5	61.5	Articles.....	6	13	80	20	20	50	30
42	61.5	Outlines.....	7	13	50	50	30	20	50
46	61.5	Policies.....	7	13	100	0	10	80	10

TABLE IX, Continued

DECILE RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYEES' JUDGMENTS

DUTY NUMBER	RANK	TYPEWRITING DUTIES AND TASKS	DECILE	PERFORM %	IMPORTANT %	UNIMPORTANT %	SCHOOL %	JOB %	SCHOOL-JOB %
90	61.5	Teletype.....	7	13	90	10	30	20	50
20	65.5	Declarations.....	7	12	100	0	0	56	44
28	65.5	Interrogatories....	7	12	100	0	11	78	11
37	65.5	Mortgages.....	7	12	100	0	34	44	22
78	65.5	Signature cards....	7	12	100	0	34	44	22
10	68	Bills of lading....	7	11	63	37	37	0	63
27	71.5	Figure loans.....	7	9	100	0	29	29	42
31	71.5	Leases.....	7	9	71	29	57	14	29
35	71.5	Loans.....	8	9	71	29	29	29	42
45	71.5	Petitions.....	8	9	100	0	0	57	43
47	71.5	Production.....	8	9	100	0	29	57	14
89	71.5	Sealing machine....	8	9	43	57	29	29	42
21	71.5	Deeds.....	8	9	100	0	14	29	57
3	77	Agreement of Association.....	8	8	100	0	33	50	17
36	77	Manuscripts.....	8	8	100	0	33.3	33.3	33.3
60	77	Writs.....	8	8	100	0	0	67	33
18	80.5	Corporation By-laws	8	7	100	0	0	40	60
55	80.5	Summons.....	8	7	100	0	20	60	20
59	80.5	Wills.....	9	7	100	0	20	60	20
84	80.5	Addressograph.....	9	7	60	40	20	40	40
33	84.5	Libels in divorce..	9	5	100	0	50	50	0
39	84.5	Menus.....	9	5	100	0	50	50	0
44	84.5	Permits.....	9	5	100	0	25	50	25
57	84.5	Testimony.....	9	5	75	25	25	25	50
8	88	Briefs.....	9	4	100	0	0	67	33
25	88	Executions.....	9	4	100	0	0	100	0
91	88	Switchboard.....	9	4	100	0	0	100	0
30	90	Laboratory tests...	9	3	100	0	0	100	0
23	95	Drawing.....	10	1	100	0	0	100	0
92	95	Ediphone.....	10	1.3	100	0	0	100	0
93	95	Comptometer Work...	10	1.3	100	0	100	0	0
94	95	Soundscriber.....	10	1.3	100	0	100	0	0
95	95	Keep office supplies in stock.....	10	1.3	100	0	0	100	0
96	95	Standard register	10	1.3	100	0	100	0	0

TABLE IX, Continued

DECILE RANKING OF TYPEWRITING DUTIES AND TASKS BASED ON EMPLOYEES' JUDGMENTS

DUTY NUMBER	RANK	TYPEWRITING DUTIES AND TASKS	DECILE	PERFORM %	IMPORTANT %	UNIMPORTANT %	SCHOOL %	JOB %	SCHOOL-JOB %
97	95	Loading forms with carbon.....	10	1.3	100	0	100	0	0
98	95	Splitting orders...	10	1.3	100	0	100	0	0
99	95	Schedules.....	10	1.3	100	0	0	0	100
100	95	Freiden calculators	10	1.3	100	0	0	0	100

The third step in analyzing the check-list returns was to con sider the school, job, and school-job votes as checked by employers and employees. The employers and employees were asked to check each duty they performed or required their typist to perform as to whether it should be taught in school, on the job, or whether instruction in both school and on the job was necessary. For each of the 100 duties, the Job-School ratio was worked out. Tables X and XI, on pages 71-79 show the duties that should be taught in school. The rank of each duty is repeated from Tables VI and VII, pages 50-53 and 58-60. In the column headed, "Frequency" is given the frequency of mention. In the column headed, "Decile" is the decile ranking of each duty as given previously in Tables VIII and IX on pages 62 -69 . In the column headed "Job" is given the number of votes in favor of learning the duty on the job. In the column headed "School" is given the number who were in favor of having the duty taught in school. In the column "School-Job" is given the number of votes in favor of having the duty taught in school and on the job. In the column headed "$\frac{S+SJ}{S+J+SJ}$" is given the percentage that the number of school plus school-job mentions is of the total mentions.

Decision had to be made from the decile ranking of duties as to which duties should be taught in school. The following points were given consideration: (1) decile rank of duties, (2) frequency of mention, (3) number advocating school and school-job.

TABLE X

TYPEWRITING DUTIES AND TASKS THAT SHOULD BE TAUGHT IN SCHOOL BASED ON EMPLOYEES' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	$\frac{S \cap SJ}{S \cap J \cap SJ}$
42.5	Advertisements.....	17	5	3	6	8	64.7
23.0	Applications.....	25	3	4	13	8	48
6.5	Articles.....	10	6	2	5	3	50
45.0	Bill of Sale.....	16	5	4	4	8	75
68.0	Bills of Lading.....	8	7	3	0	5	100
58.0	Cables.....	11	6	6	4	1	63.6
9.0	Cards.....	45	1	8	26	11	42.2
23.0	Checks.....	25	3	17	3	5	88
34.0	Contracts.....	20	4	5	7	8	65
37.0	Copy for Newspapers.....	19	4	3	6	10	68.4
80.5	Corporation By-Laws.....	5	8	0	2	3	60
39.5	Credit Inquiries.....	18	4	6	6	6	66.7
71.5	Deeds.....	7	8	1	2	4	71.4
31.0	Deposits.....	21	3	11	5	5	76.2
39.5	Expense Accounts.....	18	4	6	5	7	72.2
71.5	Figure Loans.....	7	7	2	2	3	71.4
31.0	Invoices.....	21	4	11	3	7	85.7
71.5	Leases.....	7	7	4	1	2	85.7

TABLE X, Continued

TYPEWRITING DUTIES AND TASKS THAT SHOULD BE TAUGHT IN SCHOOL BASED ON EMPLOYEES' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	S + J / SJ
1	Letters.....	60	1	28	2	30	96.7
10.5	Lists of Various Kinds.....	42	2	10	22	10	47.6
71.5	Loans.....	7	8	2	2	3	71.4
77.0	Manuscripts.....	6	8	2	2	2	66.7
65.5	Mortgages.....	9	7	3	2	4	77.8
17.0	Memoranda.....	29	2	6	14	9	51.7
47.5	Notes (Financial).....	15	5	8	3	4	80.0
28.5	Orders.....	22	3	6	11	5	50.0
61.5	Outlines.....	10	7	3	2	5	80.0
23.0	Payrolls.....	25	3	5	14	6	44.0
84.5	Permits.....	4	9	1	2	1	50.0
31.0	Receipts.....	21	4	10	5	6	76.2
51.5	Recommendations.....	14	6	6	4	4	71.4
12.0	Records.....	40	2	10	18	12	55.0
6.0	Reports.....	48	1	14	27	7	43.8
18.0	Requisitions.....	23	2	4	4	10	50.0
56.0	Shipping Orders.....	12	6	5	3	4	75.0
18.5	Work Sheets.....	22	3	8	8	6	63.6

TABLE X, Continued

TYPEWRITING DUTIES AND TASKS THAT SHOULD BE TAUGHT IN SCHOOL BASED ON EMPLOYEES' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	$\frac{S + SJ}{S + J + SJ}$
54.5	Balance Sheets.....	13	6	7	4	2	69.2
34.0	Telegrams.....	20	4	7	5	8	75.0
34.5	Testimony.....	4	9	1	1	2	75.0
25.0	Tax Returns.....	24	3	8	10	6	58.3
37.0	Bookkeeping.....	19	4	8	0	11	100.0
51.5	Check credit Ratings.....	14	6	2	5	7	64.3
34.0	Check Form Letters for Completion.....	20	4	7	3	10	85.0
20.5	Check Records.....	26	2	2	13	11	50.0
7.5	Compose Letters and Messages..	46	1	19	3	24	93.5
47.5	Checking Unfilled Orders.....	15	5	12	1	2	93.3
42.5	Drawing Checks.....	17	5	9	3	5	82.4
7.5	Envelopes.....	46	1	25	11	10	76.1
5.0	Folding and Insertion of Letters in Envelopes.....	50	1	27	9	14	82.0
2.5	Indexing and Filing.....	58	1	22	5	31	91.4
20.5	Inventories.....	26	3	10	4	12	84.6
14.5	Keep Employer Reminded of Engagements.....	33	2	6	14	13	57.6

TABLE X, Continued

TYPEWRITING DUTIES AND TASKS THAT SHOULD BE TAUGHT IN SCHOOL BASED ON EMPLOYEES' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	$\frac{S \cap SJ}{S \cap J \cap SJ}$
16.0	Make master copies.....	30	2	13	5	12	83.3
10.5	Proof Reading.....	42	1	27	3	12	92.9
42.5	Prove Cash.....	17	5	7	3	7	82.4
14.5	Read, Sort, and Classify Mail.	33	2	14	14	5	57.6
51.5	Reconcile Checking Account....	14	6	7	3	4	78.6
9.0	Signature Cards.....	9	7	3	4	2	55.6
26.5	Stencils.....	23	3	14	2	7	91.3
2.5	Use Telephone.....	58	1	12	19	27	67.2
13.0	Wait on Customers.....	38	2	6	17	15	55.3
19.0	Yearly Statements.....	27	2	10	7	10	74.1
	Operate Following Machines:						
4.0	Adding Machine.....	52	1	36	2	14	96.2
80.5	Addressograph.....	5	9	1	2	2	60.0
42.5	Check Writer.....	17	5	8	4	5	76.5
47.5	Fluid Duplicator.....	15	5	11	3	1	80.0
26.5	Mimeograph.....	23	3	19	0	4	100.0

TABLE X, Continued

TYPEWRITING DUTIES AND TASKS THAT SHOULD BE TAUGHT IN SCHOOL BASED ON EMPLOYEES' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	$\frac{S \neq SJ}{S \neq J \neq SJ}$
	Duties Added by Employees						
95	Comptometer Work.....	1	10	1	0	0	100
95	Soundscriber.....	1	10	1	0	0	100
95	Standard Register.....	1	10	1	0	0	100
95	Loading Forms With Carbons.....	1	10	1	0	0	100
95	Splitting Orders.....	1	10	0	0	0	100
95	Schedules.....	1	10	0	0	1	100
95	Freiden Calculator.....	1	10	0	0	1	100

TABLE XI

TYPEWRITING DUTIES THAT SHOULD BE TAUGHT IN SCHOOL BASED ON EMPLOYERS' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	$\frac{S \cap SJ}{S \cap J \cap SJ}$
59.0	Affidavits.....	9	6	1	1	7	88.9
38.5	Applications.....	15	4	4	4	7	73.3
73.5	Briefs.....	4	8	0	0	4	100.0
47.5	Bulletins.....	13	5	7	2	4	84.6
33.5	Bills of Lading.....	16	4	7	4	5	75.0
63.0	Cables.....	6	7	4	0	2	100.0
23.5	Cards.....	22	3	11	5	6	77.3
11.0	Checks.....	29	1	15	2	12	93.1
42.5	Claims.....	14	5	4	5	5	64.3
27.5	Contracts.....	19	3	6	3	10	84.2
42.5	Copy for Newspapers.....	14	5	6	0	8	100.0
26.0	Credit Inquiries.....	20	3	6	1	13	95.0
69.5	Deeds.....	5	7	0	0	5	100.0
17.5	Deposits.....	25	2	15	3	7	88.0
47.5	Estimates.....	13	5	5	4	4	69.2
13.5	Invoices.....	28	2	11	6	11	78.6
59.0	Leases.....	9	6	2	1	6	88.9
1.0	Letters.....	50	1	29	0	21	100.0

TABLE XI, Continued

TYPEWRITING DUTIES THAT SHOULD BE TAUGHT IN SCHOOL BASED ON EMPLOYERS' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	$\frac{S \cap SJ}{S \cap J \cap SJ}$
20.5	Lists of Various Kinds.....	24	3	11	5	8	79.2
81.5	Manuscripts.....	3	9	0	1	2	66.7
65.0	Mortgages.....	7	7	2	1	4	85.7
47.5	Notes (Financial).....	13	5	4	1	8	92.3
11.0	Payrolls.....	29	2	8	6	15	79.3
81.5	Permits.....	3	8	0	1	2	66.7
73.5	Petitions.....	4	8	0	1	3	75.0
65.0	Production.....	7	7	1	5	1	28.6
30.0	Receipts.....	18	3	9	4	5	77.8
50.5	Recommendations.....	12	6	5	3	4	75.0
11.0	Reports.....	29	2	4	12	13	58.6
27.5	Requisitions.....	19	3	5	5	9	73.7
33.0	Work Sheets.....	17	4	5	2	10	88.2
36.5	Balance Sheets.....	15	4	4	1	10	93.3
24.5	Telegrams.....	21	3	13	4	4	81.0
42.5	Tax Returns.....	14	5	5	2	7	85.7
81.5	Wills.....	3	9	0	0	3	100.0
81.5	Writs.....	3	9	0	0	3	100.0

TABLE XI, Continued

TYPEWRITING DUTIES THAT SHOULD BE TAUGHT IN SCHOOL BASED ON EMPLOYERS' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	$\frac{S \neq SJ}{S \neq J \neq SJ}$
6.0	Bookkeeping.....	34	1	13	2	19	94.1
33.0	Check Form Letters for Completion.....	17	4	7	6	4	64.7
30.0	Check Records.....	18	4	8	3	7	83.3
7.0	Compose Letters and Messages..	32	1	15	4	13	87.5
13.5	Drawing Checks.....	28	2	13	5	10	82.1
85.0	Envelopes.....	31	1	22	4	5	87.1
5.0	Folding and Insertion of Letters in Envelopes.....	37	1	27	9	1	75.7
3.5	Indexing and Filing.....	38	1	22	1	15	97.4
30.0	Inventories.....	18	4	9	3	6	83.3
8.5	Keep Employer Reminded of Engagements.....	31	1	12	13	6	58.1
33.0	Make Master Copies.....	17	4	7	5	5	70.6
53.0	Proof Reading.....	11	6	6	1	4	90.0
20.5	Prove Cash.....	24	2	13	3	8	87.5
20.5	Reconcile Checking Account....	24	3	18	2	4	91.7
55.5	Signature Cards.....	10	6	6	3	1	70.0
38.5	Stencils.....	15	5	11	3	1	80.0

TABLE XI, Continued

TYPEWRITING DUTIES THAT SHOULD BE TAUGHT IN SCHOOL BASED ON EMPLOYERS' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	$\frac{S + SJ}{S + J + SJ}$
3.5	Use Telephone.....	38	1	18	5	15	86.8
17.5	Wait on Customers.....	25	2	7	8	10	68.0
2.0	Adding Machine.....	41	1	33	0	8	100.0
47.5	Addressograph.....	13	5	4	1	8	92.3
15.0	Check Writer.....	27	2	17	5	5	91.5
73.5	Fluid Duplicator.....	4	8	3	0	1	100.0
53.0	Mimeograph.....	11	6	9	0	2	100.0
95.0	Stenography.....	1	9	1	0	0	100.0
95.0	Postal Cards.....	1	10	0	0	1	100.0
95.0	Calculator.....	1	10	0	0	1	100.0
95.0	Ediphone.....	1	10	0	0	1	100.0

The fourth step in analyzing returns was to consider which typewriting duties should be learned on the job. For each of the 100 duties, the ratio of job mentions to total mentions was worked out. Tables XII and XIII, pages 82 - 86 were made to show which duties should be learned on the job. In the "Frequency" column is given the frequency of mentions. In the "Decile" column is given the decile ranking of each duty. In the column headed "School" is given the number of votes advocating learning the activity in school. In the column headed "Job" is given the number advocating learning the duty on the job. In the column headed "School-Job" is given the number of votes in favor of learning the duty in school and on the job. In the column indicated by "$\frac{J}{S+J+SJ}$" is given the percentage that the number of job mentions is of the total mentions. The duties on these tables are listed in alphabetical order according to the classification of duties on the original check list.

In selecting the duties to be learned on the job, the following points were taken into consideration: (1) decile ranking of each duty; (2) frequency of mention; (3) number of votes advocating learning the duty on the job. Some of the duties ranking high in performance and low in performance were included. Some duties receiving votes by employees in favor of learning the job in school were included. For example, "Sealing Machine," "Yearly Statements," were included because they were confined to only a few of the firms. Also, "Read

Sort and Classify Mail," was included in this table because, although a large number performed this operation, 58.3 per cent of the employers voted for training on the job. Most of the duties that can be learned on the job pertained to individual firms; for example, "Menus," "Drawings," and "Testimonies."

TABLE XII

TYPEWRITING DUTIES AND TASKS THAT CAN BE LEARNED ON THE JOB BASED ON EMPLOYERS' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	$\frac{S/J}{S/J/SJ}$
50.5	Advertisements.....	12	5	2	4	6	33.3
87.0	Agreement of Association.....	2	9	0	1	1	50.0
73.5	Articles.....	4	8	1	1	2	25.0
24.5	Bills of Sale.....	21	3	8	2	11	.1
73.5	Bonds.....	4	8	0	2	2	50.0
81.5	Case Histories.....	3	8	2	1	0	33.3
65.0	Corporation By-Laws.....	7	7	4	0	3	0
73.5	Declarations.....	4	8	1	1	2	25.0
89.0	Drawing.....	1	0	0	1	0	100.0
87.0	Executions.....	2	9	0	1	1	50.0
42.5	Expense Accounts.....	14	5	2	4	8	28.5
59.0	Figure Loans.....	9	6	2	4	3	44.4
69.5	Interrogatories.....	5	7	3	1	1	20.0
81.5	Libels in Divorce.....	3	8	0	1	2	33.3
7.0	Loans.....	8	7	4	2	2	25.0
38.5	Memoranda.....	15	4	5	2	8	13.3
81.5	Menus.....	3	8	0	3	0	100.0
23.5	Orders.....	22	3	6	8	8	36.4

TABLE XII, Continued

TYPEWRITING DUTIES AND TASKS THAT CAN BE LEARNED ON THE JOB BASED ON EMPLOYERS' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	$\frac{S-J}{S+J}$
65.0	Outlines.....	7	7	1	3	3	42.9
65.0	Policies.....	7	7	0	4	3	57.1
16.0	Records.....	26	2	9	6	11	23.1
59.0	Shipping Orders.....	9	6	2	5	2	55.6
81.5	Summons.....	3	6	0	1	2	33.3
81.5	Testimony.....	3	9	0	2	1	66.7
35.5	Check Credit Ratings and Orders.....	16	4	3	7	6	43.8
59.0	Checking Unfilled Orders.....	9	7	3	4	2	44.4
20.5	Read, sort and Classify Mail..	24	2	4	14	6	58.3
53.0	Yearly Statements.....	11	6	4	2	5	18.2
87.0	Graphotype.....	2	9	2	0	0	0
55.5	Sealing Machine.....	10	6	5	3	2	30.0
99.0	Teletype.....	1	10	0	0	1	0
81.5	Switchboard.....	3	9	1	2	0	66.7
91.0	Mailing Machine.....	1	10	1	0	0	0
95.0	Stockholders Record Books.....	1	10	0	0	1	0
96.0	Minutes-Stockholders.....	1	10	0	0	1	0

TABLE XII, Continued

TYPEWRITING DUTIES AND TASKS THAT CAN BE LEARNED ON THE JOB BASED ON EMPLOYERS' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	J / S / SJ
97.0	Bookkeeping Machine.....	1	10	0	0	1	0
98.0	Cashiering.....	1	10	0	0	1	0

TABLE XIII

TYPEWRITING DUTIES AND TASKS THAT CAN BE LEARNED ON THE JOB BASED ON EMPLOYEES' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	$\frac{J}{S+J+SJ}$
51.5	Affidavits.....	14	5	3	9	2	64.3
77.0	Agreement of Association.....	6	8	2	3	1	50.0
58.0	Bonds.....	11	6	1	6	4	54.5
88.0	Briefs.....	3	9	0	2	1	66.7
37.0	Bulletins.....	19	4	5	11	3	57.9
58.0	Case Histories.....	11	6	2	6	3	54.5
54.5	Claims.....	13	6	0	10	3	76.9
65.5	Declarations.....	9	7	0	5	4	55.6
95.0	Drawings.....	1	10	0	1	0	100.0
47.5	Estimates.....	15	5	3	8	4	53.3
88.0	Executions.....	3	9	0	2	1	66.7
65.5	Interrogatories.....	9	7	1	7	1	77.8
90.0	Laboratory Tests.....	2	9	0	2	0	100.0
84.5	Libels in Divorce.....	4	9	2	2	0	50.0
84.5	Menus.....	4	9	2	2	0	50.0
71.5	Petitions.....	7	8	0	4	3	57.1
61.5	Policies.....	10	7	1	8	1	80.0
71.5	Production.....	7	8	2	4	1	57.1

TABLE XIII, Continued

TYPEWRITING DUTIES AND TASKS THAT CAN BE LEARNED ON THE JOB BASED ON EMPLOYEES' JUDGMENTS

RANK	TYPEWRITING DUTIES AND TASKS	FREQUENCY	DECILE	SCHOOL	JOB	SCHOOL-JOB	$\frac{J}{S+J+SJ}$
80.5	Summons.....	5	8	1	3	1	60.0
80.5	Wills.....	5	9	1	3	1	60.0
77.0	Writs.....	6	8	0	4	2	66.7
71.5	Sealing Machine.....	7	8	2	2	3	28.6
61.5	Teletype.....	10	7	3	2	5	20.0
88.0	Switchboard.....	3	9	0	3	0	100.0
95.0	Ediphone.....	1	10	0	1	0	100.0
95,0	Keep Office Supplies in Stock..	1	10	0	1	0	100.0

The final part of this study dealt with interviewing twenty office managers who represented the types of offices into which our high school business graduates might enter. Appointments were made and the following questions were asked:

1. How many are employed in the plant?

2. How many are employed in the office?

3. What types of office positions are available for the high school graduate?

4. What are your employment policies in regard to:
   a. Age requirements
   b. Health requirements
   c. Education
   d. Experience

5. Do you give tests to applicants?
   a. Of what do they consist?
   b. Is practice permitted?
   c. How long are the tests?
   d. Is speed or accuracy stressed?

6. What are your standards of production?

7. How fast must an applicant type?

8. What salaries do you pay typists?

9. What make of typewriters do you use in the office?

10. If you use the electromatic, how is it used and what is the general reaction?

11. Do you use the Hooven justifying device?

12. What other machines do your typists operate?

13. What do you consider the most needed traits for success as typists?

14. What type of filing is used in your office? Do typists do this work?

15. How could the schools improve typewriting training?

16. Discuss the adequacy of students' ability to care and make minor adjustments on the typewriter.

17. What is the adequacy of training in corrections both in erasing and in crowding and spreading?

18. Do you have any in-service training program for typists?

19. What suggestions or comments have you to make?

A summary of the findings is given below.

Number Employed in Plant and Office

The findings showed that of the twenty firms participating in this study, 14 or 70 per cent employ more males in the plant than they do females. Eleven companies, or 55 per cent employ more females for office work than males. The smallest office participating in this study employed one male and eight females. The largest office employed sixteen-hundred males and fourteen-hundred females.

Types of Office Positions Available for High School Business Graduates.

There were twenty-eight office positions mentioned by office managers which are available for the high school business graduate. An alphabetical list of these positions is given below.

1. Accounting cost clerks
2. Addressograph operators
3. Bookkeeper
4. Bookkeeper-Typist
5. Burrough's statement machine operator
6. Calculator operator
7. Cashier
8. Clerical work
9. Credit work
10. Duplicating operator
11. File clerk

12. General office work
13. Invoice clerk
14. Junior clerk
15. Junior clerk-typist
16. Junior clerk-stenographer
17. Key punch operator
18. Messenger
19. Payroll clerk
20. Production clerk
21. Record clerk
22. Remington bookkeeping machine operator
23. Salesman
24. Shipping clerk
25. Stenographer
26. Storekeeper
27. Stub sorter
28. Switchboard operator

Age Requirements

Twelve, or 60 per cent of the businesses interviewed required a person to be eighteen years of age for initial employment. Five or 25 per cent have a hiring age of seventeen years. One company, or 5 per cent has an age requirement from eighteen to thirty-five years. One firm has an age limit of eighteen to fifty-five years; while the remaining company has an age limit of eighteen to thirty years of age.

Health Requirements

Physical examinations are required by six of the companies. Although no physical examinations are required by the remaining fourteen firms, each stated that the applicant must be in good health.

Education

Eighteen, or 90 per cent required a high school diploma. One, or 5 per cent prefer typists to have a general course in

high school, followed by business training. One, or 5 per cent, specified either a high school education or its equivalent.

Experience

Fifteen, or 75 per cent, of the firms do not require experience for initial employment. However, four, or 20 per cent, prefer experience but stated it was not absolutely necessary. One firm claimed that experience as a requirement for employment depended on the job requirements.

Tests

Aptitude and practical tests are given by four companies. Straight copy tests are given to typists by six firms. Two firms use their verbal interview, which lasts for approximately twenty minutes, as a test for employment. Clerical tests, including filing, spelling, sentence structure, simple arithmetic, and vocabulary are given by three manufacturing firms. Proficiency tests are given by one office. The remaining four offices, or 20 per cent, of the firms interviewed, do not test applicants.

The general clerical test is approximately one hour in length, and practice is permitted before taking the typewriting test. On the typewriting test, accuracy is the primary concern. On the aptitude and practical tests, which consume one hour in length, practice is permitted and like the typewriting test, accuracy is stressed.

The standard proficiency tests, which are given by the public employment office to persons applying for assistance in finding jobs, is ten minutes in length. Although practice in typewriting is not permitted as a part of the test, the test may be repeated later. Both speed and accuracy are important factors.

Typing and dictation tests are given by two firms to all girls who possess these abilities. The applicant is given one-half page of dictated material to transcribe and is allowed to practice typing before transcribing her notes.

Standards of Production

It was interesting to note that one company had established norms on tests by testing their present employees. However, the remaining companies, although they have no formal standards of production, replied to the question, "What are your standards of production?" by the following terms: "highest," "steady work," "good work," "steady output and progress," and "accurate and neat work."

Typewriting Speed

Speed requirements were given by fifteen or 75 per cent of the office managers. The table which follows shows the speed requirements and the number of office managers voting for each typing speed minimum. The remaining five or 25 per cent claimed that no special typing speed is required but that typists should be reasonably fast and accurate.

TABLE XIV

SPEED REQUIREMENTS FOR TYPISTS

Minimum Words Per Minute	Office Managers Voting	Per Cent
35	3	20.0
40	3	20.0
45	5	33.3
50	4	26.7
Totals.....	15	100.0

It is evident from the above table that employers desire accuracy with moderate speed of approximately forty-five words per minute.

Promotional Opportunities

On the whole, the promotional opportunities for typists are relatively good. Most of the companies consider their own employees for promotion before hiring outside help to fill an opening. Typists are also encouraged to take courses in shorthand so that they might be considered for secretarial openings.

Three office managers expressed the opinion that the typists' chance for advancement depends entirely upon the progress of the individual. One employer felt that the typist with a knowledge of bookkeeping had a good chance for advancement. Two manufacturing concerns stated that the best opportunity for advancement is in connection with general clerical jobs. For jobs involving typing alone, there seems to be few opportunities. However, in most cases, advancement may be made on a seniority basis to higher paid jobs.

Salaries Paid Typists

Salaries paid beginning typists, as revealed by this study, range from a starting salary of $22.00 per week to $29.00 per week. The maximum salary for beginners range from $24.00 per week to $40.00 per week.

For experienced typists, the beginning salaries range from a starting salary of $24.00 to $43.70 per week. The maximum salary for experienced typists was given as a range from $30.00 to $55.84 per week.

Two office managers stated that the maximum salary for experienced typists and beginning typists is unlimited.

The list of salaries as reported by office managers is shown in Table XV.

TABLE XV

SALARIES PAID TYPISTS

Beginners		Experienced	
From	To	From	To
$22.00	$24.00	$24.00	$30.00
24.00	26.00	26.00	30.00
25.00	-----	27.00	30.00
27.00	-----	28.00	30.00
28.00	40.00	30.00	Unlimited
29.00	-----	35.00	40.00
		40.00	Unlimited
		43.70	55.84

The office managers who did not quote their highest pay for beginning and experienced typists, said that no limit was set on the top salary.

In one large manufacturing company used in this study,

there are 125 clerical jobs, each carrying a specific rate. When a girl transfers to one of these jobs, she receives the rate of pay for the job as soon as it is competently handled. While they may hire at a rate below the job rate, the lowest job rate is $31.00 per week, and the average rate of pay is about $37.00 per week.

Makes of Typewriters Used in the Office

Royal, Underwood, Remington, and L. C. Smith makes of typewriters are used in the office. Royals ranked first with fifteen office managers claiming they use them in their office. The Underwood and Remington typewriters were checked by nine office managers, and the L. C. Smith typewriter was checked by three office managers as being used in their particular office.

The teletypewriter was listed as an important machine by one office manager.

Six firms used the electromatic typewriters. Two firms used the electromatic for order writing and special work. Four firms used it for general typing. The general reaction to the electromatic typewriter seemed favorable. However, in one case the office manager stated that although the electromatic is fast, it is too noisy when slightly worn. One large industrial firm stated that typists are afraid of the electromatic typewriter until they become familiar with it, and then they are very well pleased.

No firm reported that they used the Hooven justifying device.

Other Machines Operated by Typists

The following table shows the various office machines which are operated by typists as claimed by office managers.

TABLE XVI

MACHINES OPERATED BY TYPISTS

Machine Used	Number of Offices Using Machine
Adding Machine	7
Comptometers	5
Cash Register	3
Bookkeeping Machine	3
Mimeograph	3
Check Writer	2
Monroe Calculator	2
Remington Rand Billing Machine	2
Ediphone	2
Ditto	2
Switchboard	1
Sunstrand	1
Teletype	1
Teletotal	1
Burroughs Calculator	1
Freiden Calculator	1
Allen Wales Adding Machine	1
IBM Keypunch	1
Dictaphone	1
Addressograph	1

The adding machine was listed by seven or 35 per cent, of office managers as being used by typists. The comptometer was given by 25 per cent of office managers as being used by typists. This was followed by the cash register, bookkeeping machine and the mimeograph with 15 per cent of office managers listing them as machines which are also operated by their typists.

Needed Traits for Success as Typists

Table XVII, page 97 shows the traits which were listed by office managers as being necessary for success as typists. The traits are listed in alphabetical order and the "x" shows the number of office managers claiming them important.

The results of this trait study shows that accuracy is more important than speed. Neatness ranks second in the list of traits. Ability to get along and speed are traits which hold equal weight. Concentration ranks fifth in the list of twenty traits. Ability to work under pressure is also noted as an important trait for success as typist.

TABLE XVII

IMPORTANT TRAITS FOR TYPISTS

Traits	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
Ability to spot errors.....				x																
Ability to work under pressure..										x										
Ability to get along with associates.....															x					
Ability to spell and punctuate..								x												
Accuracy.....																			x	
Application.....	x																			
Appreciation of neat work.....	x																			
Attention to detail.....			x																	
Attendance.....					x															
Concentration.....												x								
Good disposition.....			x																	
Industry.....					x															
Integrity.....	x																			
Neatness.....																x				
Punctuality.....							x													
Speed.....															x					
Willingness to work.....			x																	

Types of Filing Used

Alphabetical, subject, numerical, and decimal filing are performed by typists. Geographical filing was not mentioned as being used in any of the offices used in this study. The following table shows the types of filing used in the office and the number of firms who claimed their typists do this work.

TABLE XVIII

TYPES OF FILING PERFORMED BY TYPISTS

Type of Filing	Number of Offices Using System	Do Typists Perform This Duty? Yes	No
Alphabetical	13	10	3
Numerical	5	5	0
Subject	1	1	0
Decimal	1	0	1
Totals.....	20	16	4

Sixteen, or 80 per cent, claim that their typists perform filing. Alphabetical system of filing is used more than the numeric, subject or decimal system. Is is evident that typists should be given some training in alphabetical filing.

How Schools Can Improve Typewriting Training

Although four office managers said the schools are doing a good job training typists, the following suggestions were given by office managers as ways in which the high school can improve their typewriting course.

1. Students should be given more rough draft work.
2. Students should be given an opportunity to type from handwriting.

3. More attention should be given to tabulation and listing work.

4. Drill use of numbers.

5. Practice in completing complex business forms.

6. Students should be given longer periods of straight copy work for over ten minutes.

7. Have students become familiar with changing typewriting ribbons.

8. Stress the importance of accuracy.

9. Stress the care and cleaning of the typewriter.

10. Stress better letter arrangement.

11. Give more practical English.

12. Give more attention to spelling.

13. Stress accuracy first and speed second.

14. Give students a working knowledge of the adding machine, comptometer, and calculator.

15. Stress the importance of proof reading before submitting a letter to be signed.

16. Stress the fact that it is a waste of time to pass along a letter that is obviously untidy, poorly set up and incorrectly spaced.

17. Train students to appreciate the difference between a good product and a poor one.

18. Stress the importance of accuracy, neatness, and correct typing technique.

19. Give students more training in the use of multiple carbons.

20. Use specific examples, provided by industry, for drill work.

21. Rotate students on various types of machines so that they will be more versatile.

22. Visitations of typing classes to industrial offices will be helpful.

Adequacy of Students' Ability to Make Minor Adjustments on the Typewriters

The majority (14) of the office firms felt that the girls were generally able to make most of the repairs except those requiring the machine to be taken out of the office. One office manager expressed the opinion that a typist should be able to change a ribbon, clean out the surface, oil the typewriter and dust the keys. One manager stated that the typist should be taught to take pride and good care of her machine.

Adequacy of Training in Corrections

There is a need for stressing neat erasures. One office manager claimed that training in erasing is badly needed. It was also felt that beginning typists lack the technique of inserting paper and making corrections after a mistake has been discovered. The remaining eighteen office managers felt that in general, the typist's ability to make corrections after erasing was good. One office manager felt, however, that erasing should not be allowed to any extent. A retail office manager stated that he had not allowed his office typist to make more than three erasures on one sheet.

There does not seem to be too much trouble with crowding and spreading. Twelve, or 60 per cent, of the managers interviewed claimed that typists perform this operation satisfactorily. Four, or 20 per cent, claimed that more training in crowding and spreading should be given in the high school typewriting course. The remaining four, or 20 per cent, of the office

managers made no comment on this question.

In-Service Training Program for Typists

No firm participating in this study had an in-service training program for typists. However, one office manager stated that due to their intricate system, typists were trained to their methods after being employed by them.

Suggestions and Comments Made by Office Managers

The following suggestions and comments were made by the office managers interviewed for this study.

> Personal qualities far outweigh familiarity with multiplicity of gadgets. Banks, insurance companies, statistical outfits, require gadget familiarity. A small manufacturer requires capacity for attention, ability to look and catch on, neatness, accuracy, some imagination, desire for some sort of responsibility, dependability and especially some vague sense of what business is all about.[1]

> Students should be able and willing to cooperate with their fellow workers toward the common end and also not be afraid of a little hard work. The ability and willingness to think and work for advancement should carry the conscientious student a long way.[2]

> Stress should be placed upon training the typist to have her work appear balanced on the sheet.[3]

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[1] Thomson, R. D., Thomson Manufacturing Company, Lynn, Massachusetts. February 3, 1948.

[2] Ingalls, Francis E., President, Lincoln Cooperative Bank, Lynn, Massachusetts. January 10, 1948.

[3] Personnel Director, Lynn Gas and Electric Company, Lynn, Massachusetts. January 27, 1948.

Many typists do not come to work properly prepared in spelling, grammar and neatness. Emphasis should be stressed on the seriousness of school training as it should not be necessary for an employer to teach the fundamentals.[1]

It is a big help for a typist to understand the use of the comptometer or other calculating machines.[2]

A fast typist cannot be fast merely by having nimble fingers. It is very essential to teach the typist that a lot of speed is lost in motion--when throwing the carriage, beginning new lines, and inserting and removing the paper.[3]

We believe there is a good opportunity for all typists and stenographers. It has been our experience that they are difficult to obtain except where plans are made a long time ahead.[4]

We think the high schools are doing a fine job in training typists for office work.[5]

---

[1]Goldberg, H., Goldberg Furniture Company, Lynn, Massachusetts. February 5, 1948.

[2]Smith, Robert C., Auditor, Eastern Massachusetts Street Railway, Lynn, Massachusetts. January 29, 1948.

[3]Office Manager, United Insurance Finance Corporation, Lynn, Massachusetts. January 28, 1948.

[4]McIntosh, W. H., United Shoe Machinery, Lynn, Massachusetts. February 2, 1948.

[5]Brown, Joseph, Office Manager, Willard D. Martin, Real Estate and Insurance Company, Lynn, Massachusetts. January 28, 1948.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

A brief summary of the findings is given below.

1. The duties and tasks performed by typists, as evidenced by this study, are numerous and varied. The following 30 duties should be taught in school based on the combined judgments of employers and employees.

Letters

Indexing and Filing

Use Telephone

Adding Machine

Folding and Insertion of Letters

Reports

Compose Letters and Messages

Envelopes

Keep Employer Reminded of Engagements

Payroll

Invoices

List of Various Kinds

Checks

Cards

Credit Inquiries

Contracts

Bookkeeping

Telegrams

Reconcile Checking Account

Stencils and Master Sheets

Bills of Lading

Applications

Financial Notes

Proofreading

Requisitions

Records

Inventories

Use of Mimeograph

Fluid Duplicator

2. It is evident from this study that the speed required of typist is approximately 45 words per minute.
3. The five types of office machines which were checked as being used most by typists are the following:

Adding Machine

Comptometer

Cash Register

Bookkeeping Machine

Mimeograph

Check Writer

4. The results of this study show that speed and accuracy are important factors in typewriting.
5. Alphabetical filing is the most common type used by typists who perform this activity.
6. There are many office positions available for the high

school graduate such as clerk, file clerk, cashier, switchboard operator, stenographer, etc.

7. The salaries paid beginning typists range from a starting salary of $22.00 to $29.00 per week to a maximum of $40.00 per week. The salaries paid experienced typists ranges from a starting salary of $24.00 to a maximum of $54.84 per week.
8. Royal typewriters ranked first in the list of typewriters most commonly used in the office.
9. Speed, accuracy, neatness, and ability to get along with others are all important traits desirable of typists.
10. A high school education is desired by most employers for positions as typists.

RECOMMENDATIONS

In view of the findings of this study the following recommendations are made:

1. Typewriting activities which are most frequently used by typists such as letters, use of telephone, use of adding machine, indexing and filing, envelopes, reports, etc., should be taught in the high school typewriting course.
2. Typewriting students should develop a high degree of skill in alphabetical filing.
3. Training on the use of the adding machine should emphasize skill in addition.
4. More attention should be given to judging correct spacing

and placement of letters.

5. Greater emphasis should be placed on spelling, punctuation and grammar.

6. Typewriting students should be given more opportunity to type real business forms. This may be accomplished by the office practice class duplicating checks, money order, payroll forms, telegrams, etc., which may be used by the typewriting class.

7. More training should be given in typing from rough draft, proof-reading, typing with multiple carbons, use of master copies, cutting stencils, etc.

8. Students should be trained to work under pressure. This may be accomplished by assigning work to the typing students which must be completed by a given date.

9. Teachers of typewriting should become acquainted with the various types of tests given to typists in order to coach their students along these lines.

10. Students should be given an opportunity to operate the various types of typewriters which are available in order all makes with ease.

11. Greater emphasis should be placed on personal qualities such as neatness, accuracy, dependability, and responsibility.

12. Typewriting should be taught with the objective in mind that the students should be able to type between 45-50 words per minute for ten minutes.

13. It is recommended that consideration be given to the list of typewriting duties which should be taught in school based on the opinion of both employees and employers.
14. Office standards should be the goal of the typewriting class.
15. Typewriting teachers should avail themselves of the opportunity of visiting offices in order to keep abreast of the various duties and tasks performed by typists.
16. It is recommended that the typewriting course be revised to meet the needs of local business men by giving the typewriting students training on the most frequent duties performed by typists.
17. It is further recommended that a similar study be made in order to bring the office practice class up to date both in office machines and office procedures.

BIBLIOGRAPHY

BIBLIOGRAPHY

Bates, Gertrude A. "Improvement of Business Instruction Through a Survey," Balance Sheet (December, 1946), Volume XXVIII, No. 4, p. 149-190.

Charters, W. W., and Whitley, Isadore B. Analysis of Secretarial Duties and Traits, Williams and Wilkins Company, 1924. 186 pp.

Dame, F. L., et al. Prognosis, Guidance, and Placement in Business Education, South-Western Publishing Company, 1944. 216 pp.

Dictionary of Occupational Titles, United States Department of Labor, United States Employment Services, Washington, D. C., 1939. 982 pp.

Gemmell, James. "Courses of Study in Typewriting," American Business Education (October, 1947), Volume IV, p. 323-324.

Haslam, James E. "Business Education for Local Needs," Business Education World (May, 1941), Volume XXI, p. 835-36.

Haynes, Benjamin R., and Graham, Jessie. Research in Business Education, published by C. C. Crawford, Los Angeles, California. 218 pp.

Hemkin, A. H. "The Business Department and the Local Community," Balance Sheet (October, 1947), Volume XXIX, No. 2. p. 62-65.

Miller, Byron M. "Does the High School Commercial Department Meet the Needs of Your Local Community?" Balance Sheet (April, 1941), Volume XXII, No. 8. p340-41.

National Business Education Quarterly, Winter, 1945. "Improvement of Office Practice," published by the Department of Business Education of the National Educational Association of the United States, Ball State Teachers College, Muncie, Indiana. 54 pp.

Nichols, Frederick G. et al. A New Conception of Office Practice, Harvard University Press, Cambridge, 1927. 123 pp.

Nichols, Frederick G. and Wissman, W. The Personal Secretary: Differentiating Duties and Traits, Harvard University Press, Cambridge, 1934. 105 pp.

APPENDIX

Potter, Thelma. "An Analysis of the Work of General Clerical Employees," National Association of Business Teacher Training Institutions, Bulletin 37, December, 1945.

Rice, L. A. "Attaining Standards in Preparation for Business," American Business Education (October, 1947), Volume IV, No. 1, p. 14.

Santamaria, Catherine. "Job Analysis of Office Services Performed by Office Workers in Small Communities," Unpublished Master's Thesis, Boston University, Boston, Massachusetts, 1941. 206 pp.

Sister Mary de Paul, and Winchel, Gladys Mae. "Determining Standards of Employment in Office Positions," Balance Sheet (April, 1943) Volume XXIV. p. 340.

Skene, Etta C. "Occupational Analysis as a Basis of Bookkeeping Curricula of Public Secondary Schools," Unpublished Doctor's Thesis, New York University, New York, 1924. 203 pp.

Statistical Abstract of the United States, United States Department of Commerce, Bureau of Foreign and Domestic Commerce, Washington, D. C., 1946. p. 181.

Tobin, James E. "Survey in Kingston," Balance Sheet (January, 1946) Volume XXVII, No. 5. p. 212-214.

United States Monthly Labor Review, Department of Labor, Bureau of Labor Statistics (August, 1947) Volume LXV, No. 2. p. 140.

Veon, Dorothy H. "Job Analyses of Governmental Positions in Secretarial Work," Journal of Business Education, (September, 1941) p. 13-14.

Wiggin, Harold A. "Specific Training for Occupational Opportunities in Rhode Island," Balance Sheet, (November, 1937) p. 110-113.

SCHEDULE A

TIME ANALYSIS CHART

TYPEWRITING DUTIES AND TASKS	Minutes per Day							
	8:00-9:00	9:00-10:00	10:00-11:00	11:00-12:00	1:00-2:00	2:00-3:00	3:00-4:00	4:00-5:00
1. Advertisements								
2. Affidavits								
3. Applications								
4. Articles								
5. Bills of sale								
6. Bonds								
7. Briefs								
8. Bulletins								
9. Bills of lading								
10. Cables								
11. Cards								
12. Case histories								
13. Checks								
14. Claims								
15. Contracts								
16. Copy for newspapers								
17. Credit inquiries								
18. Deeds								
19. Estimates								
20. Expense accounts								
21. Invoices								
22. Laboratory tests								
23. Leases								
24. Letters								
25. Libels in divorce								
26. Lists of various kinds								
27. Manuscripts								
28. Mortgages								
29. Memoranda								
30. Menus								
31. Notes (Financial)								
32. Orders								
33. Outlines								
34. Payrolls								
35. Permits								
36. Policies								
37. Receipts								
38. Recommendations								
39. Reports								
40. Requisitions								
41. Shipping orders								
42. Statistical typing								
a. work sheets								
b. balance sheets								
43. Telegrams								
44. Testimony								
45. Tax returns								
46. Wills								

TYPEWRITING DUTIES AND TASKS	8:00-9:00	9:00-10:00	10:00-11:00	11:00-12:00	1:00-2:00	2:00-3:00	3:00-4:00	4:00-5:00
47. Other duties								
a. Check form letters for completion.....								
b. Compose letters and messages.....								
c. Envelopes.....								
d. Folding and insertion of letters in envelopes.....								
e. Indexing and filing.....								
f. Inventories.....								
g. Keep employer reminded of engagements.								
h. Make master copies.....								
i. Proof reading.....								
j. Read, sort and classify mail.....								
k. Stencils.....								
l. Use telephone.....								
m. Wait on customers.....								
n. Operate the following machines:								
1) Fluid duplicator.....								
2) Mimeograph.....								
3) Check writer.....								
4) Adding machine.....								
5) Voice Writing.....								
a. Ediphone.....								
b. Dictaphone.....								
c. Autograph.....								
48. List other duties you perform which are not listed above.								
a.....								
b.....								
c.....								
d.....								
e.....								
f.....								

SCHEDULE B

DIRECTIONS:

Please fill in the following blanks FIRST.

1. Name.....

2. Amount of schooling (i.e., grammar, high, business, college).....

3. Business address.....

4. Title of position now held.....

5. Occupation of employer (i.e., lawyer, manufacturer, merchant, etc.).....

NOW READ THE FOLLOWING INSTRUCTIONS VERY CAREFULLY

1. Read the list of duties carefully. Put a check ( ) mark in the space provided for each duty you perform. Add any duties which you perform but which are not listed.

2. Now, considering only each of the duties you perform, place a check mark:

   a. In the "Important" column if you think the duty is important.
      In the "Unimportant" column if you think the duty is unimportant.

   b. In the "School" column if you think the duty should be taught in school.
      In the "Job" column if you think the duty should be taught on the job.

   c. In the "School-Job" column if instruction in school and on the job is required.

3. In order that we may have an idea of the approximate time you spend on each duty, will you please give us the following information:

   a. The approximate number of minutes per day, hours per week, and weeks per year you spend on each of the typewriting duties you perform by placing a number in each of the respective columns on the Typewriting Duty sheet.

TYPEWRITING DUTIES AND TASKS	PERFORM	IMPORTANT	UNIMPORTANT	SCHOOL	JOB	SCHOOL-JOB	MINUTES PER DAY	HOURS PER WEEK	WEEKS PER YEAR
Typewriting Duties									
1. Advertisements									
2. Affidavits									
3. Agreement of Association									
4. Applications									
5. Articles									
6. Bills of sale									
7. Bonds									
8. Briefs									
9. Bulletins									
10. Bills of lading									
11. Cables									
12. Cards									
13. Case histories									
14. Checks									
15. Claims									
16. Contracts									
17. Copy for newspapers									
18. Corporation By-laws									
19. Credit inquiries									
20. Declarations									
21. Deeds									
22. Deposits									
23. Drawing									
24. Estimates									
25. Executions									
26. Expense accounts									
27. Figure Loans									
28. Interrogatories									
29. Invoices									
30. Laboratory tests									
31. Leases									
32. Letters									
33. Libels in divorce									
34. Lists of various kinds									
35. Loans									
36. Manuscripts									
37. Mortgages									
38. Memoranda									
39. Menus									
40. Notes (Financial)									
41. Orders									
42. Outlines									
43. Payrolls									
44. Permits									
45. Petitions									
46. Policies									
47. Production									
48. Receipts									

TYPEWRITING DUTIES AND TASKS	PERFORM	IMPORTANT	UNIMPORTANT	SCHOOL	JOB	SCHOOL-JOB	MINUTES PER DAY	HOURS PER WEEK	WEEKS PER YEAR
49. Recommendations									
50. Records									
51. Reports									
52. Requisitions									
53. Shipping orders									
54. Statistical typing									
a. work sheets									
b. balance sheets									
55. Summons									
56. Telegrams									
57. Testimony									
58. Tax returns									
59. Wills									
60. Writs									
Other Duties									
61. Bookkeeping									
62. Check credit ratings and orders									
63. Check form letters for completion									
64. Check records									
65. Compose letters and messages									
66. Checking unfilled orders									
67. Drawing checks									
68. Envelopes									
69. Folding and insertion of letters in envelopes									
70. Indexing and filing									
71. Inventories									
72. Keep employer reminded of engagements									
73. Make master copies									
74. Proof reading									
75. Prove cash									
76. Read, sort and classify mail									
77. Reconcile checking account									
78. Signature cards									
79. Stencils									
80. Use telephone									
81. Wait on customers									
82. Yearly statements									
Operate following machines:									
83. Adding machine									
84. Addressograph									
85. Check writer									

TYPEWRITING DUTIES AND TASKS	PERFORM	IMPORTANT	UNIMPORTANT	SCHOOL	JOB	SCHOOL-JOB	MINUTES PER DAY	HOURS PER WEEK	WEEKS PER YEAR
86. Fluid duplicator.....									
87. Graphotype.....									
88. Mimeograph.....									
89. Sealing machine.....									
90. Teletype.....									
List other duties you perform which are not listed above.									
91.....									
92.....									
93.....									
94.....									
95.....									
96.....									
97.....									
98.....									
99.....									
100.....									

SCHEDULE C

DIRECTIONS:

1. Read the list of duties carefully. Put a check ( ) mark in the space provided for each duty your typists perform. Add any duties which they perform but which are not listed.

2. Now, considering only each of the duties your typists perform, place a check mark:

a. In the "Important" column if you think the duty is important. In the "Unimportant" column if you think the duty is unimportant.

b. In the "School" column if you think the duty should be taught in school. In the "Job" column if you think the duty should be taught on the job.

c. In the "School-Job" column if instruction in school and on the job is required.

SCHEDULE C

TYPEWRITING DUTIES AND TASKS	PERFORM	IMPORTANT	UNIMPORTANT	SCHOOL	JOB	SCHOOL-JOB
Typewriting Duties						
1. Advertisements						
2. Affidavits						
3. Agreement of Association						
4. Applications						
5. Articles						
6. Bills of Sale						
7. Bonds						
8. Briefs						
9. Bulletins						
10. Bills of Lading						
11. Cables						
12. Cards						
13. Case Histories						
14. Checks						
15. Claims						
16. Contracts						
17. Copy for Newspapers						
18. Corporation By-Laws						
19. Credit Inquiries						
20. Declarations						
21. Deeds						
22. Deposits						
23. Drawings						
24. Estimates						
25. Executions						
26. Expense Accounts						
27. Figure Loans						
28. Interrogatories						
29. Invoices						
30. Laboratory Tests						
31. Leases						
32. Letters						
33. Libels in Divorce						
34. Lists of Various Kinds						
35. Loans						
36. Manuscripts						
37. Mortgages						

SCHEDULE C, Continued

TYPEWRITING DUTIES AND TASKS	PERFORM	IMPORTANT	UNIMPORTANT	SCHOOL	JOB	SCHOOL-JOB
38. Memoranda						
39. Menus						
40. Notes (Financial)						
41. Orders						
42. Outlines						
43. Payrolls						
44. Permits						
45. Petitions						
46. Policies						
47. Production						
48. Receipts						
49. Recommendations						
50. Records						
51. Reports						
52. Requisitions						
53. Shipping Orders						
54. Statistical Typing						
a. Work Sheets						
b. Balance Sheets						
55. Summons						
56. Telegrams						
57. Testimony						
58. Tax Returns						
59. Wills						
60. Writs						
Other Duties						
61. Bookkeeping						
62. Check Credit Ratings and Orders						
63. Check Form Letters for Completion						
64. Check Records						
65. Check Letters and Messages						
66. Check Unfilled Orders						
67. Drawing Checks						
68. Envelopes						
69. Folding and Insertion of Letters in Envelopes						

SCHEDULE .C, Continued

TYPEWRITING DUTIES AND TASKS	PERFORM	IMPORTANT	UNIMPORTANT	SCHOOL	JOB	SCHOOL-JOB
70. Indexing and Filing.....						
71. Inventories.....						
72. Keep Employer Reminded Of Engagements.....						
73. Make Master Copies.....						
74. Proof Reading.....						
75. Prove Cash.....						
76. Read, Sort And Classify Mail.....						
77. Reconcile Checking Account.....						
78. Signature Cards.....						
79. Stencils.....						
80. Use Telephone.....						
81. Wait On Customers.....						
82. Yearly Statements.....						
Operate Following Machines						
83. Adding Machine.....						
84. Addressograph.....						
85. Check Writer.....						
86. Fluid Duplicator.....						
87. Graphotype.....						
88. Mimeograph.....						
89. Sealing Machine.....						
90. Teletype.....						
List Other Duties Your Typist Performs Which Are Not Listed Above						
91.						
92.						
93.						
94.						
95.						
96.						

SCHEDULE C, Continued

TYPEWRITING DUTIES AND TASKS	PERFORM	IMPORTANT	UNIMPORTANT	SCHOOL	JOB	SCHOOL-JOB
97.						
98.						
99.						
100.						

SCHEDULE D

Questions Compiled for Interview with Office Managers

1. Date.....Name of Company.....Official Contacted.....

2. Type of Business.....

3. How many are employed in the plant?.....Males.....Females.....

4. How many are employed in the office?.....Males.....Females.....

5. What types of office positions are available for the high school business graduate?.....
.....

6. What are your employment policies in regard to:
   a. Age requirements.....
   b. Health requirements.....
   c. Education.....
   d. Experience.....

7. Do you give tests to applicants?.....If so, of what do they consist?
.....
.....
.....
   a. How long?.....
   b. Is practice permitted?.....
   c. Is speed or accuracy stressed?.....

8. What are your standards of production?.....
.....
.....
   a. How does this vary in various types of typing jobs?.....
.....
.....

9. How fast must an applicant type?.....
.....

10. What are the promotional opportunities for typists?.....
.....
.....

11. What salaries do you pay typists?
   a. Beginners $.....to $.....
   b. Experienced $.....to $.....

12. What make of typewriters do you use in the office?.....
.....
.....
    a. Electromatic.....
        1. How used.....
        2. General Reaction.....
        .....
    b. Hooven Justifying.....

13. What other machines do your typists operate?.....
.....
.....

14. What do you consider the most needed traits for success as typist?.....
.....
.....

15. What type of filing is used in your office?.....
Do your typists do this work?.....

16. How could schools improve typewriting training?.....
.....
.....

17. Discuss the adequacy of students ability to care and make minor adjustments on typewriters.....
.....

18. Adequacy of training in corrections:
    a. Erasing.....
    .....
    b. Crowding and spreading.....
    .....
    .....

19. Do you have any in-service training program for typists?.....
.....
.....

20. What suggestions or comments have you to make?.....
.....
.....
.....
.....

SCHEDULE E

THE HIGH SCHOOL

SWAMPSCOTT, MASSACHUSETTS

December 20, 1947

Dear Office Worker:

A study is being made to determine the duties and tasks performed by those engaged as typists.

You, as one of a selected group, can give us real help with this study by filling out the enclosed questionnaire and returning it in the enclosed stamped addressed envelope.

Your cooperation will be appreciated.

Sincerely yours,

Teacher of Business Subjects
Swampscott High School

JM:mdm

Enclosures

SCHEDULE F

THE HIGH SCHOOL

SWAMPSCOTT, MASSACHUSETTS

December 20, 1947

Dear Mr. Employer:

A study is being made in an attempt to revise the typewriting course to meet the needs of local business concerns.

In order to make a practical and functional course, it is necessary to find out what duties and tasks are performed by those engaged as typists.

You can be of real help in this study by filling out the enclosed questionnaire at your earliest convenience and mailing it in the enclosed stamped addressed envelope.

If you are interested in seeing the final results of this study, we shall be glad to send you a copy.

Sincerely yours,

Teacher of Business Subjects
Swampscott High School

JM:mdm

Enclosures

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